MARINE RECORD

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LAKE CARRIERS' ASSOCIATION.

To consider and take action upon all general questions relating to the navigation and carrying business of the Great Lakes, maintain necessary shipping offices and in general to protect the common interests of Lake Carriers, and improve the character of the service rendered to the public.

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NICARAGUA CANAL.

Admiral Walker, U. S. N., president of the Nicaragua canal commission, has returned to Washington and is devoting his attention to the collation and compilation of the material which will form the substance of the report of the Nicaragua canal commission. The admiral says that the commision now has about 250 men at work along the line of the proposed canal and they will stay there throughout the rainy season. They are making borings and ascertaining the character of the soil at every point where it is proposed to locate dams, locks or other heavy masonry structures. In addition to this the field parties are taking accurate measurements of the rain fall and the flow of the various streams lying within the limits of the canal concession. This information was particularly desired by the commission owing to the fact that up to this point all the calculations made have been based upon the condition as existing in the dry season time when Nicaragua has always been visited by commissions.

Admiral Walker is confident that the commission will be able to report to Congress at the approaching session, and while he says the necessary data has not been obtained to accurately determine the cost of the canal, he feels confident that the project will be shown to be entirely practicable and worthy of execution.

OHIO COAL OUTPUT.

Chief Mine Inspector R. M. Haseltine, Columbus, O., has filed with the Governor his annual report for the year 1897.

From a table designed to show the coal delivered at the lake ports, it is found that the amount aggregates 7,997,248 tons. Of this 2,745,130 tons was anthracite, and 5,252,118 tons was bituminous coal. This indicates a loss in the former of of 430,592 tons, and 513,487 tons in the latter. Of the bituminous coal sent to the lake ports, 3,326,814 tons came from the mines of Pennsylvania, as against 4,337,815 tons during 1896. From the Ohio fields there were received 1,355,138 tons, an increase of 88,103 tons as compared with the preceding year. This represents 25.8 per cent. of the bituminous coal received at the lake ports, as compared with 21.9 per cent. during 1896, 32.2 per cent. during 1895, 28.8 per cent. in 1894, 46 per cent. in 1893, and 45 per cent. during 1892. From the State of West Virginia there was received 565,166 tons, a gain of 406,449 tons over the year 1896. This represents 10¾ per cent. of the year's coal, as compared with 3.6 per cent. in 1896, 6½ per cent during 1895, and 5.3 per cent. in 1894.

The year's production of coal is given at 12,448,822 tons, a decrease of 463,786 tons as compared with the preceding year, and a loss of 1,235,057 tons when compared with the tonnage of 1895. The loss in lump was 321,407 tons; in nut coal 107,294 tons, and the decrease in the amount of pea or slack is given at 35,082 tons.

GOVERNMENT SUPPORT OF SHIPYARDS.

A little more than thirty years ago nearly all the nations of the world had their navies built in England, and her private plants received not only $100,000,000 from the British, but as much more from other governments for constructing naval vessels. The English yards enjoyed this enormous advantage until Germany set the example of having her ships built at home. France, Russia and Italy followed, and now only British, Chinese and Japanese war vessels are built in England. But the English plants are firmly established, and they even now have government patronage sufficient to give them highly profitable employment in new construction and in repairs. The British admiralty is composed of trained men. If vessels are to be built they are apportioned to the best concerns at a fixed price, and never are contracts given to the lowest bidder, as is the policy in this country.

REPORT OF FREIGHT AND PASSENGER TRAFFIC

TO AND FROM LAKE SUPERIOR FOR THE MONTH OF AUGUST, 1898, INCLUDING STATISTICS OF THE UNITED STATES AND CANADIAN CANALS AT SAULT STE. MARIE, MICHIGAN AND ONTARIO.

EAST BOUND.

ITEMS.	US CANAL.	CANAD'N CANAL.	TOTAL.
Copper, net tons	12,921	400	13,321
Grain, bushels	1,675,570	222,106	1,897,676
Building Stone, net tons	526	.....	526
Flour, barrels	889,340	61,280	950,620
Iron ore, net tons	1,635,989	299,942	1,935,931
Iron, Pig, net tons	2,183	.....	2,183
Lumber, M. ft. B. M	136,148	1,470	137,618
Silver Ore, net tons	.....	.....	.....
Wheat, bushels	1,084,943	328,134	1,413,077
Unclass'd Freight, net tons	26,280	7,525	33,805
Passengers, number	3,661	3,262	6,923

WEST BOUND.

ITEMS.	US CANAL.	CANAD'N CANAL.	TOTAL.
Coal, (hard) net tons	76,759	6,837	83,596
Coal, (soft) net tons	421,761	87,449	509,210
Flour, barrels	.....	.....	.....
Grain, bushels	1,900	1,000	2,900
Manufactured Iron, net tons	29,328	1,528	30,856
Salt, barrels	34,070	954	35,024
Unclass'd Freight. net tons	41,895	5,803	47,698
Passengers, number	5,159	2,889	8,048

East Bound Freight, net tons	2,367,748
West Bound Freight, net tons	677,292
Total	3,045,040
Total Craft, United States	1,958
Total Craft, Canadian	614
Total	2,572
Total Registered Tonnage, United States	2,244,042
Total Registered Tonnnage, Canadian	363,410
Total	2,607,452

A UNITED STATES NAVAL RESERVE.

The recent squabble with Spain has proved to the State, as well as the Federal officials, that a state naval reserve or militia is not only a misnomer, but a complete abortion in so far as an auxiliary to the U. S. Navy is concerned, and it has turned out just as a sailor-soldier, or in other words naval-militia corps might have been expected to act, though more markedly so perhaps in the State of Ohio than elsewhere. Acting on this view of the matter, which has long been ventilated and supported in the columns of the MARINE RECORD, the Chicago Reserves have started a movement for the creation of a national naval reserve, with the Illinois Naval Militia as the nucleus. Lieut.-Commander John M. Hawley, head of the recruiting department of the United States Navy, and officers of the Illinois Naval Reserve Association and the militia are enthusiastically in favor of the project. Efforts will be made to introduce the subject before the next Congress for action and we can only say at this time that the project should receive every possible support until successfully accomplished in its entirety.

SHIPBUILDING AT COAST PORTS.

Eight leading shipbuilders of the Atlantic and Pacific coasts have at present under construction in their yards thirty-six American steamships, six vessels for foreign account, and twelve vessels for the United States government. The William Cramp & Sons Ship and Engine Building Co. has building for American owners seven vessels of 36,168 tons displacement; the Crescent Shipyard at Elizabeth, N., J., five steamships, aggregating 2,500 tons; Union Iron Works, San Francisco, 12,040 tons; Harlan & Hollingsworth Co., Wilmington, Del., 9,208 tons; Bath Iron Works, Bath, Me., 6,880 tons; Delaware Iron Shipbuilding and Engine Works, Chester, Pa., six American steel vessels of 10,000 tons. Columbian Iron Works and Dry Dock Co., Baltimore, 11,000 tons, and Newport News Ship Building and Dry Dock Co., 49,500 tons. Of the latter, however, less than half is mercantile marine tonnage, the remainder being embraced in three United States warships now under construction by the Virginia concern. Eliminating the warships, it is found that with the completion of vessels now under construction at these eight yards, fully 100,000 tons will be added to the credit of the United States mercantile marine.

CANADIAN BUOYAGE—GEORGIAN BAY.

Col. Anderson, of the Marine Department of Canada, is at present placing Pintsch gas buoys in the approach to Parry Sound, as follows: At Seguin bank, a large black buoy, a red buoy on Hooper Island Shoal, a black buoy on Spruce Island Shoal. It is also his intention to place a buoy at the gate, opposite Spruce Island Shoal. A light has been built on Depot Island at the entrance to Depot harbor, and will soon be put in operation. It is also thought likely that he will arrange to change some of the lights, so as to more clearly mark the old, or north channel, which carries better water. The proposed changes will possibly include the removal of the light-house from Hugh Rock to Carling Rock, and the erection of a new light-house near Killbear Point.

SUEZ CANAL TRAFFIC.

During the year ended June 30 last, 4,842,078 tons of goods passed through the Suez canal borne by 1,792 ships. This information is furnished by United States Vice Consul Gen. Walts, in a report to the State Department. He shows that the traffic receipts from this commerce were $8,636,920. As might be expected, Great Britain is far in advance of all other nations in the number of ships passing through the canal, those under the British flag numbering 1,196 out of a total of 1,792. Germany was second with 178, France had 107, the Netherlands 99, and Austria 49. Only 4 American vessels passed through the canal during the year, our commerce in the quarter exceeding only three of the commercial nations of the world, Argentine, China and Greece.

A CARGO steamer of 13,000 tons capacity has been ordered from Messrs. Swan & Hunter, shipbuilders, Wallsend-on-Tyne, England, by the Cunard line, according to press dispatches from Liverpool, England. The dimensions of the vessel ordered are: Length, 560 ft.; beam, 64 ft. and depth, 42 ft., giving her a capacity of 13,000 tons of dead weight cargo, or about 20,000 tons of measurement goods. These same builders now have approaching completion for the Cunard line the freight steamer Altonia, of 11,000 tons capacity.

NEWS AROUND THE LAKES.

CHICAGO.

Special Correspondence to The Marine Record.

The freight on corn to Buffalo from this port continues at 1⅛ cents.

A. L. Fitch chartered the steamer Charles A. Eddy for clipped oats to Sarnia at 1 cent.

The floating dry dock had the schooners R. Kaunters and A. Bradley on for leak-stopping.

The Graham & Morton Transportation Co.'s steamer City of Milwaukee is this season breaking all former records in the fruit carrying trade.

The steam yacht Thetis, built at Benton Harbor by E. W. Heath, for J. H. Broughton, of Chicago, was launched last Saturday. She is a finely modeled yacht.

The crib for the Pintsch light on Racine reef is in place and nearly ready to receive the gas cylinder. The crib has been placed at the southeast end of the reef.

Seamen and machinists of experience are being shipped or signed on for three years' service in the navy at the United States naval rendezvous, Masonic Temple building, room 1420.

J. J. Rardon & Co. chartered the steamer Britanic for clipped oats to Buffalo at 1⅛ cents, the steamer City of London for corn to Midland at 1⅛ cents, the steamer Rappahannock for corn to Buffalo at 1⅛ cents.

The yacht Thetis, a very handsome craft, was launched from Heath's shipyard at St. Joseph on Saturday. She is owned by J. H. Broughton, a Chicago board of trade man, who will make a trip south in the new boat this winter.

The latest statement from the Board of Trade shows that Chicago grain elevators, public and private, contained 1,033,000 bushels of wheat, 11,309,000 bushels of corn, 2,659,000 bushels of oats, 132,000 bushels of rye and 259,000 bushels of barley, or a total of 15,392,000 bushels.

Capt. David Curran, Jr., who recently resigned from the steamer Chas. Rietz, which he had been master of for several seasons, is now master and part owner of the steamer Louis Pahlow. Capt. Dave is a very enterprising young man, and his many friends wish him much success in his new venture.

The steamer Mary Mills was libeled at Milwauke on Tuesday by the United States marshal on a claim of the Starke Dredge Co. On May 5, while the Mills was coming out of the draw of a bridge, she is said to have collided with a dump scow owned by the Starke company. A big hole was stove in one side of the scow, which was damaged more than $1,000.

The Peavey Grain Company contemplates the erection of an additional elevator at South Chicago to cost $1,000,000. There are at the present time two elevators on the company's property at One Hundred and Second street and Calumet river which will give, when the new elevator is completed, a total capacity of 2,900,000 bushels. The work on the elevator may be started this fall.

Lloyd Smith, chairman of the transportation committee, Captain J. S. Dunham, and Captain J. G. Keith have been named by the Board of Trade as a committee to take charge of the movement for the abolition of Welland canal tolls. The committee will at once take steps to interest other commercial organizations in the movement, and present their arguments before the international commission now in session at Quebec, Canada.

At Miller Bros.' shipyard the steamer Francis Hinton is in dock receiving 40 feet of new keel aft, repairs to her shoe, two new outside planks, new piece of garboard, calking all over and re-ironing, the steamer A. Weston is in for a new wheel and repairs to stern bearing, the steamer James Fisk, Jr., was in for searching up, calking butts and repairs to shoe, the steamer C. J. Magill for new outside plank and recalking, the sloop yacht Neva for scraping and painting, the steam yacht Adele for bottom calking, the steamer Jay Gould to have her wheel fastened, the steamer Albert Soper for calking.

The steamer Escanaba, bound from South Chicago to Conneaut, O., with steel scraps, got a log in her wheel when off the Marine Hospital on Saturday. The wheel was broken and the rudder carried away and lost. The steamer got into the trough of the sea and strained herself, which caused her to spring a leak. The tug Prodigy, coming up the lake with two schooners, gave the tow to the tug C. M. Charnley and went to the assistance of the Escanaba and towed her into Chicago. She had nearly three feet of water in her hold on her arrival in the river. The tugs Tomlinson and Charnley towed the Escanaba to South Chicago Monday, where she is to be unloaded and then go into the Chicago Ship Building Co.'s dry dock for repairs.

A. Mosher, a pioneer vesselman and lumber dealer on the Great Lakes, and among the first tugman on the Chicago river, died this week at Troy, N. Y. Mr. Mosher was associated for many years with Capt. Dunham in the tug and vessel business. A tug and a schooner still bear his name. For nearly half a century he met with uninterrupted prosperity and accumulated a large property. In his old age, when the management of his interests fell into other hands, a crash came, and the Mosher failure at Bay City, Mich., with many attendant circumstances, became the talk of the Wolverine State. For several years Mr. Mosher has been in bad health, due largely to his business troubles. His old time friends remember him as a courteous gentleman, the soul of business honor, and a most genial companion.

Officials of the Graham & Morton Transportation Co. state that it was due to the prompt action on the part of William J. McClure, chief engineer, and John Taylor, an oiler, that the damage was confined to the engine room of the side-wheel steamer City of Chicago, when her engine broke down on Lake Michigan. Engineer McClure was sitting in his chair when he realized that something had gone wrong, and jumped to the throttle. He shut off the steam, although several large pieces of flying steel landed near him. Taylor, with equal presence of mind, turned off the valves in the steampipes leading to the boilers. It was due only to their quick action that the boilers did not empty their contents into the engine room, and from there throughout the steamer. The engine room was a wreck. The walking beam, weighing several tons, was broken in many places. Below, there was little left of the engine intact. The general smash up was much greater than that on the steamer Manitou, which experienced a like disaster some weeks ago, and now all interested parties are guessing what caused the several recent large breakdowns just at the close of the passenger carrying and busiest part of the season. The breakdowns have not been caused by stresses and straining in heavy weather so it must all be covered up under the terms of crystalization and, or, fatigue of metal. Might as well say change of temperature, though, or the herald of autumn.

DETROIT.

Special Correspondence to The Marine Record.

The tug Wisconsin is being equipped with steam steering gear at Marquette.

The steamer Edward Smith is in service again after her extensive repairs, amounting practically to a rebuild after her collision.

The day boats of the Detroit and Cleveland Navigation Co. have been taken off. The night runs to Cleveland and Detroit will be continued until the close of navigation.

The steamer Mecosta went into dry dock this week for a general overhauling. The boats of the Whitney fleet are always well kept up and the Mecosta will be put in the best condition for the fall trade.

In the United States district court, this week, default was entered in the case of the barge Jupiter, filed by Henry M. Botsford, of Port Huron, for a bill of repairs at the Wolverine dry dock, amounting to $297.

The revenue cutter Fessenden is on Lake Superior with Assistant Secretary of the Treasury W. D. Howells and Dr. Kreger his private secretary, who are making a tour of inspection of the various lake ports.

Judge Swan has made an order in the case of the Buffalo Ship Chandlery and Supply Co. vs. schooner George L. Colwell, for the money collected on the execution, $606, to be paid to the libelants and others. This sum covers all claims and costs.

Commissioner Scott has reversed his ruling that tickets issued in Canada for passage on vessels sailing from a United States port for foreign ports are not taxable. He did so to prevent the Canadian brokers from importing tickets for foreign trips, and selling them without the added cost of the war tax.

Eugene P. Motley, assistant keeper at the Middle Island, Michigan, life-saving station, has this week been promoted to keeper, to succeed Murdock A. McLellan, who is transferred and promoted from first assistant keeper at South Manitou, to keeper at Pottowattomie, Wis. Bertrand C. Green was promoted from second assistant keeper to first assistant at the South Manitou light station. August Nelson has been appointed second assistant to succed Green.

The steel steamer Troy has been placed in service this week. Her general dimensions are 402½ feet over all, 42½ feet beam, and 28 feet molded depth, engines, quadruple expansion, and boilers tested for 210 pounds of steam. The Troy was built at the Wyandotte yards of the Detroit Dry Dock Co., to the order of the Western Transit Co., Buffalo, Gibson L. Douglas, vice-president and general manager, at an estimated cost of $225,000. Her builders expect her to carry 5,250 tons on the usual lake draft, at a speed of 13 miles an hour.

Maj. Clinton B. Sears, Corps of Engineers, U. S. A., stationed at Duluth, Minn., and in charge of all river and harbor work, etc., on Lake Superior, has received notice that he has been appointed senior member of a commission to examine the harbor of Savannah, Ga., and make a report on the project for its improvement. Major Sears has been carrying on very important and extensive work in his district for the past few years and is regarded by civilians as one of the best officers in the service, strictly alive to the pressing duties of his calling and exacting the full measure of returns in all contracts entered into by the government.

The superintendent of the Canadian Sault canal says that there will be no further delay in preparations for the removal of the bridge abutment which has, ever since the construction of the canal, been a matter of considerable inconvenience to vessel men. It was the intention to have this matter remedied last year, but for some reason there was a postponement made. Under the present arrangement it is possible for only one vessel to pass the railroad bridge at a time. Last year an up-bound and a down-bound vessel attempted to pass at this point, with the result that they became so tightly wedged that traffic was blocked for over six hours, and the boats were only released after the fender strakes had been sawed through. The change in the bridge will make the full width of the canal available.

BUFFALO.

Special Correspondence to The Marine Record.

The steel steamer Empire City is bound here with a grain cargo of 6,100 tons.

It has been estimated that fully 160,000 passengers availed themselves of the pleasure of a lake excursion this summer on the local lines.

Twenty-one cargoes, with an average load of nearly 100,000 bushels of grain, was Monday's record here. The Senator led the fleet with a cargo of 197,000 bushels of wheat.

The steel barge Manda, drawing 17½ feet, couldn't get alongside of her elevator on Monday to discharge. Tugs finally pushed her in close enough to get the elevator legs to work and they soon lightened her up.

It would be an interesting item to record the total number of propellers fitted on at this port during the season. The job of getting a new wheel is about one of the commonest here. The Bulgaria had the third for the season hooked on to her this week.

The cut of fifty per cent. by the Singer Company, of Duluth, in the rate for towing barges is said to have resulted from repeated shading of card rates by the Inman Company. When cuts like this can be made there has evidently been big pickings in the towing business, after all that has been said to the contrary.

Shippers forced the Lake Michigan coal rate down to twenty-five cents this week, although any reduction was not thought of until the drop had been actually made. Brokers say that the rate will soon go up again, but there's no telling how "the cat is going to jump" now, besides, there may be a considerable quantity of coal placed at the reduced rate, though not many owners would charter ahead on a falling freight market at this season of the year.

The steamer Maine, which was burned and sunk at Tonawanda dock, before navigation opened last spring, has been patched up sufficiently to enable her to float safely, and has been taken to Bay City for a rebuild. Capt. James Davidson can put the "how do" on all these sort of "lame ducks" in short order and at a minimum of expense. A vesselman remarked here the other day that he was the only American–Nova Scotia shipbuilder on the lakes in the matter of handling timber to the best advantage.

Maj. Symons, Corps of Engineers, U. S. A., has appointed Henry S. Hammon to look after the construction of a new light-house at Carleton Island, St. Lawrence river. This light-house will be built on the end of the island, which is about three miles below Cape Vincent, and will have an elevation of eighty feet. The light will be a fixed white. A dwelling for the keeper will also be built. It is thought that the work will be completed in four months. The cost will be about $6,000. The light will be a great aid to navigation.

The passenger steamer Badger State stranded on a shoal below Ogdensburg, on Monday, and as it was a soft bottom great difficulty was experienced in releasing her. Points of this sort has been well attended to on the upper lakes and it is now in order for a few government appropriations to be expended in dredging away mud banks and shoals which interfere with safe navigation at the lower ports on Lake Ontario. Especially will this feature be rendered more necessary if the tolls are taken off the Welland Canal and upper lakes begin using the route.

Col. J. A. Smith, Corps of Engineers, U. S. A., stationed at Cleveland, in charge of that river and harbor district, has been notified of his appointment to succeed Maj. Symons, who is in charge of the Buffalo district, as a member of a board to determine a suitable location for a new bridge across the Niagara river. The board will consist of Admiral Walker, Mr. Marindin, of the coast survey service, and Col. Smith. Maj. Symons has so much other work in view that it will be impossible for him to act as a member of the board, and Col. Smith was therefore named to succeed him.

The American line operating the line of steamers between Clayton, N. Y., and Montreal, has discontinued its service for the season. It has been a very successful year for the American line. This was the first season the Messrs. Folgers, owners of the American line, have operated a daily service between the United States and Canadian cities, and the results attained have been satisfactory. General Manager Howard Folger, of Clayton, said a few days ago that the American line carried thousands of people this year, but that the revenue would have been much larger had not competition with the Richelieu & Ontario Company brought on a rate war. Passenger rates this summer have been ridiculously low on account of the spirited competition, but the Messrs. Folger announce that they will continue their service again in 1899, and be in a little better position to meet the competition of the monopolistic Richelieu & Ontario line, which, it appears, has grown too careless of trade and arbitrary in their treatment of the traveling public.

CLEVELAND.

Special Correspondence to The Marine Record.

While the tug Paige was towing the Annie M. Ash stern first out of Fairport harbor on Tuesday, she took a sheer and ran into a range light completely wrecking it.

It is learned that Col. Jared A. Smith, Corps of Engineers, U. S. Army, stationed at this port, has been detailed to succeed Major Thomas W. Symons, Corps of Engineers, U.S.A., with headquarters at Buffalo, as a member of the board to examine the locality of a proposed bridge across the Niagara river.

The new railroad carferry steamer, building at the yards of the Globe Iron Works Co., for the Ann Arbor Co., is nearly ready for launching. She will be put into service on Lake Erie next month and be known as the Ann Arbor No. 3.

The steamer Frontenac, with a cargo of ore from Lake Superior, stuck on a shoal spot in the river, at the Lake Shore bridge, on Tuesday. The tug Alva B. released her. The Frontenac was drawing 18 feet. It would surely pay the owners of large vessels to chip in and dredge off this spot, unless they want to keep donating sums to towing companies.

Eugene P. Motley, brother of the keeper of the life-saving station, has been promoted to keeper of the Middle Island life-saving station. It is now in order for Capt. Motley, of the Cleveland station, to seek the district superintendency made vacant by the death of the late Capt. Robbins. Marine interests here would say that there could be no more well earned promotion, though not quite willing, perhaps, to lose our own efficient officer only in case of him bettering his condition and position in the service.

The Standard Contracting Co. have secured a contract at Conneaut for the construction of a thousand feet of dockage on the new property recently purchased by the Pittsburg and Conneaut Dock Co. The competition for this work was very close. The firm of Hingston & Wood, who have hitherto done the bulk of the dock building, etc., at Conneaut, had their figures discounted by the Standard Contracting Co., who do good work at rock bottom rates and are a firm that always close their contracts, whether large or small, to the entire satisfaction of all concerned.

Capt. J. H. Rogers, U. S. Revenue Marine, inspector of the entire life-saving service, and E. E. Chapman, superintendent of the ninth district, visited this station a few days ago on a regular inspection tour. The officers had no abnses to correct or suggestions to make for the betterment or discipline of the crew, consequently the general conduct, appearance, etc.. of the station met with their approval. It is, or would be difficult to see how it could possibly be otherwise, for Capt. Motley is a most skilled keeper, attentive to his duties and courteous to all with whom he is brought into contact; at the same time I know that strict discipline is always observed at the station.

The steamer Lindsay, after loading a cargo of grain here a day or two ago, grounded while trying to get out of the harbor by running to the east inside the breakwater. Between the breakwater and the pier there is quite a stretch where, at the best of times, there is only a little over fourteen feet of water, and the matter was not improved by the strong northeast wind which was blowing at the time. As a result the Lindsay grounded hard, and two tugs spent nearly an hour pulling her off. The Lindsay is only a medium-sized wooden steamer, and it is scandalous that water can't be found in the outer harbor for a vessel of her size to get along without grounding—which means expense and detention besides giving the port a bad name, thereby chasing away business. The Lindsay came here and secured a cargo, but evidently she couldn't get safely out of the port with it, so if there is a likelihood of a repetition of her grounding and paying tow bills, she won't want to charter for Cleveland again.

At a regular meeting of the Civil Engineers' Club, held on Tuesday evening, Mr. John P. Coffin read a paper on "Some Points of Interest Gathered from an Inspection of the Machinery of Vessels on the Great Lakes, together with a Synopsis of Rules Compiled for Future Construction, and the Reasons for the Same," which was listened to with great attention. The paper reported upon the prevailing types of boilers, engines, pumps and other machinery now afloat on the Great Lakes, as ascertained from a critical survey of over 1,300 vessels; it mentioned certain defects in design and proportion, and described the rules adopted to govern future construction. The subject was discussed by the members present and a cordial vote of thanks was tendered to Mr. Coffin for his admirable and carefully prepared paper. The statistical features of the address will be of incalculable benefit and importance to the future of hull, engine and boiler construction, as well as that of all modern equipment, including electric installations.

Col. Jared A. Smith, Corps of Engineers, U. S. A., in charge of the conservancy and improvement of harbors within this district, is likely to invoke federal authority to prevent the city from dumping dredgings and other waste matter in Lake Erie. The city dumping ground has been located off Case avenue, and the soundings show that the harbor line has been filled in there, in places over 20 feet, making the water so shallow that big boats cannot enter the port from the eastward, by way of the outer harbor. This shoal is 700 feet long, running north and south. On both sides of it the water is 37 and 38 feet deep, but soundings show that the depth on the shoal is not to exceed 20 feet, and on the shoalest spot it is only 17½ feet. The municipal officers should not need keying up in this matter. It is better to pay for an extra 5-mile tow bill than to block the port up so as to prevent the safe ingress and egress of vessels. Now that there is some indication of piers and wharves being built along the lake front every foot of water should be carefully watched, for wharves inside of shoal patches are of no more use to vessels than are inland parks.

JOHN OTTO, a fireman on the steamer North Land, was buried at Mackinac Island on Wednesday. The heat of the stokehole drove him insane, and he died on the trip between Detroit and Mackinac. Two other stokers were prostrated on the same trip, and one of them is likely to die.

FLOTSAM, JETSAM AND LAGAN.

Armour is said to be chartering vessels to carry wheat from Duluth to Chicago.

A considerable amount of lumber is being shipped from Menominee by rail.

Rates on lumber out of Duluth are now $1.62½ to Lake Erie ports and $1.75 to Chicago.

The Inman tug Record, which sunk at Duluth in June with the loss of three lives, is again in service.

B. B. Inman, the Duluth tug manager, has filed a petition in bankruptcy. The assets are nil and liabilities $182,000.

Bad weather delayed the release of the barge James C. King, ashore at the west end of the Portage lake canal system.

Owing to severe illness Capt. Lynn was obliged to quit the steamer Niagara at Port Huron. The craft was taken through to Buffalo by Capt. Budd.

The body of Capt. James Bricquelet, who was drowned from the tug Record at Duluth last June, has been found at Port Wing, on the south shore of Lake Superior.

Willard's Steam Yacht Agency, 15 No. Canal St., Chicago, has sold the 87-foot steam yacht Adele to Mr. A. J. Moxham, president of the Johnson Steel Co., Lorain, O.

The Richelieu and Ontario Navigation Co. has let the contract for the Kingston, the proposed sister boat of the Toronto, recently built by the Bertram Co., Toronto, at a cost of $250,000.

The steamer D. W. Rust and consort Ed. Kelley, which ran aground near Eleven Foot Shoal, Little Bay de Nocquette, on Sunday, were ore laden. Parts of their cargoes had to be lightered before they could be floated.

Shipments of coal by rail from the head of Lake Superior during August were 17,591 cars, an increase of 1,038 cars over the same month last year. The June shipments were 10,029 cars, July shipments, 11,015 cars.

M. C. Ferris, Lockport, N. Y., is the author of a pathetic poem entitled, "Lines in memory of the late lamented Captain Donald McKenzie, inscribed to his friends." The late Capt. McKenzie was keeper of the Duluth life-saving station.

In telling of the close of the Northern line's season a Detroit paper remarked recently: "The season has not been the most prosperous in the history of the line." The paper later apologized for the "not" and stands for the rest of the statement.

The whaleback steamer, James B. Colgate, ran into a heavy blow and head sea, off Whitefish Point last week, and as she was flying light and towing a consort, she was compelled to run back to Sault Ste. Marie until the weather moderated.

Dry dock work and repairs at the Milwaukee dry docks have been very brisk lately. The barge steamers Thomas Cranage and J. C. Lockwood have had work done on them this week, and the Lockwood will not be out of dock before Saturday. Both are chartered.

The American Steel Barge Co., has an order from the Standard Oil Co., for the construction of an oil carrying barge with 650,000 gallons capacity. The length of the barge will be 210 feet, beam 38 feet, depth 17 feet. She is to be ready for business by the opening of navigation next season.

The steamer A. P. Wright loaded 100,000 bushels of flax seed at Toledo this week for Parry Sound, Canada. It will be shipped from there to the east. This is the first cargo of flax seed ever loaded on a vessel at Toledo for a Canadian port, former shipments of flax seed having gone through via Buffalo to the east.

The fishing tug, which has been building on Jones Island since spring, was launched last week, and christened Tessler. She is owned by Annie, Albert and Charles Tessler. The tug, which is 65 feet long, will receive an engine discarded from the Maria B. M., and a boiler to carry a working pressure of 120 pounds.

Adolph Berendsohn, Magnolia and Julia St., New Orleans La., writes the RECORD that he wants to purchase a light draft, twin-screw steamer about 125 feet in length and 22 feet beam. Any of our readers who may have such tonnage to dispose of would probably secure a purchaser by corresponding with Mr. Berendsohn.

Capt. Napier with the tug McClellan is ready to expedite after the hull of the lost steamer Chicora, but before entering into the exploration of the bottom at the south end of Lake Michigan he wants a hard and fast agreement with Graham and Morton, former owners of the Chicora, possibly the underwriters would need to be considered, in a salvage question also.

John Owen, of Duluth, says that as a result of the cold weather of the past few days and his investigation he has concluded that there is going to be an early and long winter. Mr. Owen says that the birds are disappearing and that nature in several ways shows a tendency to hibernate a number of weeks earlier than usual. The Grand Haven Tribune notes the fact that wild geese have commenced their flight southward.

Capt. John Leisk, of the steamer Helena, says that the wreck of the barge Richard Winslow lies between three-fourths of a mile and one mile west of White Shoal. The discoloration of the water from the iron ore in her hold, when the Helena passed up, extended as far down as the lightship, a distance of two miles. The deck of the barge is pretty well gone, and her masts wabble back and forth under the action of the water.

It is said that the contract between the government and the Merritt-Chapman Wrecking Co. for the floating of the wrecked Spanish warships is for $800 a day for the use of the big tugs and other wrecking apparatus. Complaint is made of unnecessary delay in the work, but the company claims it is doing all possible to expedite the raising of the Marie Teresa, the only one of the sunken ships the government will now try to raise.

A slight difference in the bids for the construction of three new battleships authorized by Congress has been fixed and the Navy Department will award a contract to build one each to Cramps, the Newport News Shipbuilding Co. and Union Iron Works Co. San Francisco. The California yard is permitted to exact a higher figure than are the Eastern shipyards. Why couldn't a similar arrangement on a favored discrimination be awarded to lake shipyards?

The steamer Albert Soper on Saturday last took a cargo of 400,000 feet of 1½ inch and 1¼ inch lumber from the Bay Shore Lumber Company's mill at Menominee to Bay Mills, in Waiski Bay Lake Superior, to be used for some special purpose, and after discharging the same, loaded a cargo of common lumber there for Chicago. The fact that Bay Mills is a lumber manufacturing point as well as Menominee, shows that lumber is getting pretty well sorted out in Michigan.

The red can gas buoy off South Bass Island broke from its moorings during a recent heavy blow and was drifting rapidly towards the dangerous rocks off Catawba Island, where it would undoubtedly have been pounded to pieces by the heavy sea had not some of the residents of Catawba Island gone out and picked it up and towed it to a place of safety. A tug was sent from Sandusky and towed the buoy to the Government dock at Cedar Point, to which it was made fast. The buoy is an expensive affair, it having cost the Government $4,500.

DETROIT MARINE POST OFFICE.

LETTERS REMAINING ADVERTISED IN DETROIT, MICH., POST-OFFICE SEPTEMBER 14, 1898.

To get any of these letters, addressees or their authorized agents will apply at the general delivery window or write to the postmaster at Detroit, calling for "advertised" matter, giving the date of this list and paying one cent.

Advertised matter is previously held one week awaiting delivery. It is held two weeks before it goes to the Dead Letter Office at Washington, D. C.

Christie J. H., Sch. Groton
Carrier J. M., Str. Coffinberry
Casswell A. B., Str. Coffinberry
Collison James
Corman John
Christensen Chas.
Corcoran Joe
Drysdale J. W.
Engle F. F.
Fink Guy
Gulledge W. N., Sch. Planet
Grange Will
Gibson T. E., 2, Str. A. P. Wright
Greedwood Roy R., Str. A. P. Wright
Gonyau Charlie, Str. Folsom
Hewett Earl B., Str. Vega
Hennessy Frank, Str. North Wind
Imett Oscar J., Str. Folsom
Jahans E. A., Str. Vance
Jennings John, Str. Cort
Kobill Geo., Str. Cumberland
Lyons Bert
Murray J. H., 4, Str. Coffinberry
Mitchell James
May Capt. Harry
McComb James, Sch. Ottawa
Nelson Anton, Str. W. P. Ketchum
Patterson G. H.
Potter Albert
Raymond M. J., Barge Keweenaw
Rudd DeLoss F.
Rattray Geo., Str. Joliet
Surles G. W., Bge. Keweenaw
Scott Walter
Thomas John
Wilson John
Wright Chas.
Werner Fred
Windross Geo.
Wright Samuel, Str. Hadley

F. B. DICKERSON, P. M.

ENGINES AND BOILERS OF LAKE STEAMERS.

From a systematic survey held by the officers of the Prime-McCurdy syndicate of marine insurance agencies, it is learned that from 1860 to 1869 there were 40 h. p. non-condensing engines, 6 h. p. condensing, 22 steeple compound, 5 fore and aft, 8 walking beam, and 1 inclined and horizontal engine on lake vessels. It is further noted that up till 1880 there were no triple or quadruple-expansion engines built on the lakes, but between the dates of 1880 and 1889, 67 triple-expansion and 1 quadruple-expansion are found. The engines surveyed up to date shows 93 h. p. non-condensing, 4 h. p. condensing, 39 steeple compound, 99 fore and aft, 147 triple-expansion, 6 quadruple-expansion, 7 walking beam, and 9 inclined and horizontal.

The boiler record shows that 1 water tube had been placed between the years 1870 and 1890, now there are 35 in use. The present figures are as follows: Firebox 224, Scotch type 348, and water tube 35. One boiler is allowed a pressure of 300 pounds of steam, 2 allowed 265 pounds, 12, 250 pounds, and 2, 225 pounds. The majority of boilers are tested for a pressure of from 125 to 175 pounds of steam, the figures showing respectively 173, 184 and 161 boilers allowed those pressures.

The duty of inspecting the machinery of the best class of lake tonnage has been carefully carried out and when the data is completed it will no doubt be of great value to those who underwrite lake risks. Too much credit cannot be given to Mr. Walter Miller, of Cleveland, and his coadjutor in the work, Mr. Coffin, for the thorough, skillful and complete reports which they have gathered for underwriters and others interested regarding the machinery equipment of lake vessels.

A REVIEW OF THE MASTERS' MANUAL.

(Communicated.)

The Masters' Manual, recently published by the Great Lakes Register, is a compilation of laws and regulations pertaining to shipping on the Great Lakes, connecting rivers, channels, canals, locks, etc.; and of some "instructions to use of the compass;' the former occupying about three-fourths, the latter one-fourth of the 122 pages in all. As the laws and regulations contained therein are only a reprint of what is well known in lake circles, attention is called to the nautical part of it.

"The Arithmetic of Navigation" is the first chapter, or article, "to use of the compass," beginning with "the arithmetic of the circle and of time," by explaining the relations between degrees, respectively hours and minutes and seconds, without, however, giving the number of degrees and hours into which the circle is divided, so that the meaning of degrees and hours is not made clear. Then follow exercises in the four fundamental rules, the conversion of quantities, fractions and decimals, an explanation of latitude and longitude, and finally the division of the circle into 360 degrees or 24 hours. The most important division of the circle into 32 points relating to the compass is not mentioned at all, and no exercises are given for it. In the conversion of quantities from one denomination to another the reduction of minutes to the decimal of a degree, so frequently required for abbreviating the process of figuring, is wanting. The conversion of circular measure into time, and vice versa, although having no direct bearing upon the compass, is altogether too old fashioned and out of date, because there is a far easier way of getting at the desired result.

From all of which it appears that the arithmetic lacks system in arrangement and many important points for practical use.

The following chapters contain "the compass and its details, azimuth circle, variation," consisting of minute descriptions of the instruments and notes pertaining to the location of the magnetic poles of the earth, in which lake captains take little interest. The table for converting points into degrees, although well arranged is only good for quarter points and not for the eighths of points, the smallest denomination used in lake navigation. Degrees are not used, and the assertion that steamers "can be held within one degree of a specified course" will not hold good in all weathers, as every vessel is making leeway however small. Flat bottomed lake vessels make considerable leeway when light, and also when loaded with deckloads of lumber piled up fifteen feet high, in consideration of which the lack of a chapter on leeway is a defect.

In the conversion of true courses into compass courses, and vice versa, a bad precedent is furnished by combining variation and deviation. The corrections should always be kept apart and be applied separately for the simple reason that the deviation changes as the heading of the vessel changes. The note to that effect is partly spoiled by the combination taught and the arrangement of the exercises. The placing of examples for the conversion of true courses under the heading of the conversion of compass courses does not contribute to distinctness and facilitating study.

In the chapter on deviation appears the positive assertion that the heeling error is two degrees for every degree of heel, whereas the error is different for different ships and different positions of the compass aboard ship. On a par with it is the positive assertion, that there are three methods for determining the deviation, because the number of methods to that effect are practically unlimited. The first of the methods, by reciprocal bearings, is of no use to lake vessels, as it requires trained observers, and an azimuth circle which they have not. The second of the methods, by the bearing of a distant object, is reliable only when the bearing is known, or has been ascertained independently by observation. The arithmetical mean from observations of the deviation on a number of equidistant points does not always furnish the magnetic bearing of the distant object, because the quadrantal deviation is not always of the same amount in all quadrants, as is generally assumed and taught. The third of the methods, by azimuths of the sun, becomes the more unreliable the greater the altitude of the sun, for in the extreme case with the sun at the zenith the error of observation becomes infinite. Instead of azimuths, amplitudes have to be used, or amplitudes extended into azimuths, comprising bearings between the premier vertical and the rising or setting of the sun.

Probably as a compensation for many omissions and shortcomings some method of compensating the deviation is given, with the avowed purpose that every captain "should know what the adjuster has done." What he has done is readily found from the deviation table of the residual errors furnished by every trustworthy adjuster. The presence of any or all of the paraphernalia enumerated in the article gives no assurance whatever as to the perfection of the work, or the degree of perfection attained.

The article on "Charts and their Use" takes it for granted that all charts for navigation are constructed on Mercator projection, and that consequently the new charts of the lakes are of peculiar excellence. The excellence of a chart, however, does not depend on the network alone, but on the execution and accuracy of all details, and as to execution or workmanship, the old lake charts greatly excel the new ones. Although Mercator charts furnish straight, true courses, the impossibility of steering a straight, true course by compass, when the variation changes, has not been touched upon, neither the makeshift of applying the mean variation for the area traversed by the course, in order to make good the true course at the finish. The track of the vessel in such a case is a curve deviating at the center of the straight line representing the true course and distance, $\frac{1}{10}$ the length of the line, multiplied by the change of the variation in points. This important fact is not mentioned in the book, neither in Hydrographic Office charts, or paid attention to in shaping courses.

The article on bearings seems to be the best one of all, excepting the reference made to the Blish distance finder, because a far better and less complicated instrument could be devised, for readily reading off distances, without the aid of the dividers required by the Blish distance finder. In its application to the ships heading instead of the course made good is a great defect.

In conclusion it may be said, that a knowledge of the contents of the Masters' Manual is not sufficient for the safe-keeping of vessels in thick weather. Besides chart and compass, log and lead have to assist in finding the place the ship is in. A knowledge of the errors of the log, is therefore, of as much importance as a knowledge of the errors of the compass, in order to find correct distances. Patent logs, however correct, give only the distance on the water, and not the distance made good. This fact has not been mentioned in the Manual at all; neither the effect of currents upon course and distance.

As to the lead: What astronomical observations are to a vessel on the high seas, are soundings to her on the lakes or near a coast, to find the place the ship is in, especially in thick weather. The judicious use of the lead requires a certain amount of training and study on the chart, without which proficiency is not attainable; and the lack of such training and study has been the cause of many strandings on the lakes, as well as on the ocean.

Rates of insurance, and the earnings and disbursements of premiums, depend in a great measure on the safe keeping of vessels in thick weather; that is, on a thorough knowledge of sailing by chart, log, lead, and compass, and therefore the Great Lakes Register has gone to the expense of publishing a Masters' Manual, shedding some light on these subjects; and however imperfect its first attempt in this line may be, it is to be hoped that a brighter light will shine in the Masters' Manual next year.

Chicago, Sept. 14, 1898. JOHN MAURICE,
Civil Engineer and Nautical Expert.

LIBERAL UNDERWRITERS' SETTLEMENT.

The McCurdy-Prime syndicate companies having general offices at Chicago have amicably agreed to pay for all needed repairs on the wrecked engine of the steel side-wheel steamer City of Chicago, and, while the claim for damage repairs is covered by the terms of the policy issued by the underwriters, it is pleasurable to notice that no bickering, picayunish squirming to make the loss as low as possible marked the settlement entered into with the owners by the Prime-McCurdy Insurance Company. The repairs to machinery is to be done by Andrew Fletcher of Hoboken, N. J., the builder of the engine, and will cost not far from $30,000. All the broken, bent and twisted parts will be sent to Hoboken. Mr. Fletcher estimates that at least three months time will be required to repair the damage done.

VESSELS CLASSED.

Vessels classed or rated this week by the American Shipmasters' Association in the "Record of American and Foreign Shipping" are as follows: American ship, Erskine M. Phelps, owned by Arthur Sewall & Co., Bath, Me.; American bark, Antioch; American bark, Ceylon; American tern, L. T. Whitmore; American tern, Lucia Porter, and British barkentine, C. W. Janes.

THE PRAIRIE BELLE.

We have been asked to look up and reprint the lines on the loss of the Prairie Belle, by Col. John Hay, at present United States Ambassador at the Court of St. James, London. A copy which we have at hand, whether it reads according to the original or otherwise, is as follows:

Wall, no! I can't tell whar he lives,
Because he don't live, you see;
Leastways, he's got out of the habit
Of livin' like you and me.
Whar have you been for the last three year,
That you havn't heard folks tell
How Jimmy Bludso passed in his checks
The night of the Prairie Belle?

He weren't no saint—them engineers
Is all pretty much alike;
One wife in Natchez-under-the-Hill,
And another one here in Pike;
A keerless man in his talk was Jim,
And an awkward hand in a row,
But he never flunked, and he never lied—
I reckon he never knowed how.

And this was all the religion he had:
To treat his engine well;
Never be passed on the river;
To mind the pilot's bell;
And if ever the Prairie Belle took fire—
A thousand times he swore
He'd hold her nozzle agin the bank
Till the last soul got ashore.

All boats has their day on the Mississip,
And her day come at last—
The Movastar was a better boat,
But the Belle she wouldn't be passed;
And so she come tearin' along that night—
The oldest craft on the line—
With a nigger squat on her safety valve,
And her furnace crammed, rosin and pine.

The fire burst out as she clared the bar,
And burnt a hole in the night,
And quick as a flash she turned and made
For the willer bank on the right.
There was runnin' and cursin', but Jim yelled out,
Over all the infernal roar,
"I'll hold her nozzle agin the bank
Till the last galoot's ashore."

Through the hot, black breath of the burnin' boat
Jim Bludso's voice was heard,
And they all had trust in his cussedness,
And knowed he would keep his word.
And sure's you're born, they all got off
Afore the smokestacks fell—
And Bludso's ghost went up alone
In the smoke of the Prairie Belle.

He weren't no saint—but at judgment
I'd run my chances with Jim,
'Longside of some pious gentleman
That wouldn't shook hands with him.
He seen his duty—a dead sure thing—
And went for it thar and then;
And Christ ain't a-going to be too hard
On a man that died for men.

NOTICE TO MARINERS.

LIGHT-HOUSE ESTABLISHMENT,
OFFICE OF THE LIGHT-HOUSE INSPECTOR, 9TH DISTRICT,
CHICAGO, ILL., September 11, 1898.

Notice is hereby given that a 30-foot black spar buoy was established September 11th, in 5½ fathoms of water about 300 feet north of a sunken 3-masted tow barge, which foundered during the night of Sept. 4th, near White Shoals, Straits of Mackinac. This wreck lies in 30 feet of water, 1¼ miles N. W. by W. ¼ W. from White Shoal light-vessel, with three masts standing.

Bearings true and distance statute miles: Seul Choix Pointe light-house, N. 83° W. (W. ⅝ N.) 36½ miles; Skilligallee light-house, S. 2° 24′ W. (S. ¼ E.), 11¾ miles; Waugoshance light-house, S. 39° E. (S. E. ½ S.), 5⅜ miles.

C. O. ALLIBONE,
Commander U. S. Navy, Inspector 9th L. H. District.

A POWERFUL NEW TUG.

A new Port Huron tug, the G. W. Mason, has made a satisfactory trial trip. The Mason was built by Jenks & Co. of Port Huron, and is in charge of Capt. A. Bonnah of that city. She is intended for ice breaking and heavy towing. Her length is 97 feet over all and beam 21 feet. She has a triple-expansion engine and boiler carrying a working steam pressure of 200 pounds. All modern improvements and equipment have been given her, including steam steering gear, independent pumps and automatic stoker which feeds the fuel to the furnace. She uses slack or small coal for fuel and has a high speed consumption of 800 pounds per hour. The Mason is to be placed in service for the present between Port Huron and Lake Erie.

SOME RECENT DECISIONS BY JUDGE SWAN.

DAMAGES NOT ALLOWED.

Charles Leahy, by his agent, Thomas Grady, leased a steam pump to the steamer Matoa. The pump was sent back to Detroit by rail and was received by Mr. Grady, who had received money from the master of the Matoa to pay for the cartage of the pump. The pump fell while being transferred and was considerably damaged. Mr. Leahy libeled the steamer for the damages, and for his bill for the use of the pump. The bill for use was $270 for six days, and for repairs $233. At the first trial Judge Swan decided that the bill for damages was a proper one for the steamer to pay under the terms of the contract, and the bill for the use he cut to $30 a day. Now he holds that Thomas Grady, in taking the money for the trucking of the pump from the station to the warehouse, and then going to the station for it in person, constituted a discharge of the steamer from liability for its carriage by the trucking company, as Grady was Leahy's agent for such services, and the $233 damages is not allowed, and Leahy only receives his $30 per day for the use of the pump.

A DIVISION OF COSTS.

Judge Swan on Friday last filed an opinion in the case of John Godkin, libelant, against the steamer Minnie E. Kelton and Peter C. Smith et al., cross-libelants, against John Godkin. The orignal libel alleged that in September, 1894, Godkin made a verbal contract with the cross-libelants, owners of the Kelton, by which they agreed to send her to his mill at Millekokin, at the north end of Lake Michigan, to load 700,000 feet of lumber for Tonawanda, at $1.87½ per thousand. The steamer was compelled to leave the dock on October 9, after having loaded 316,000 feet, owning to her pounding on the bottom because the rough sea, although assured that there was plenty of water, and go out into the bay, going to Cheboygan the next day to complete her load. Libelant claimed damages for his inability to sell the remainder of 390,000 feet of lumber, loss of dock room, etc. Judge Swan held that libelant had not sustained his case by preponderance of testimony. He allowed the cross libel for freight, amounting to $490.05, less $42.50 paid by Godkin for help in loading the Kelton at his mill. The cross-libelants were given eleven-twelfths of their costs, and the libelant was awarded one-twelfth.

LIBEL DISMISSED.

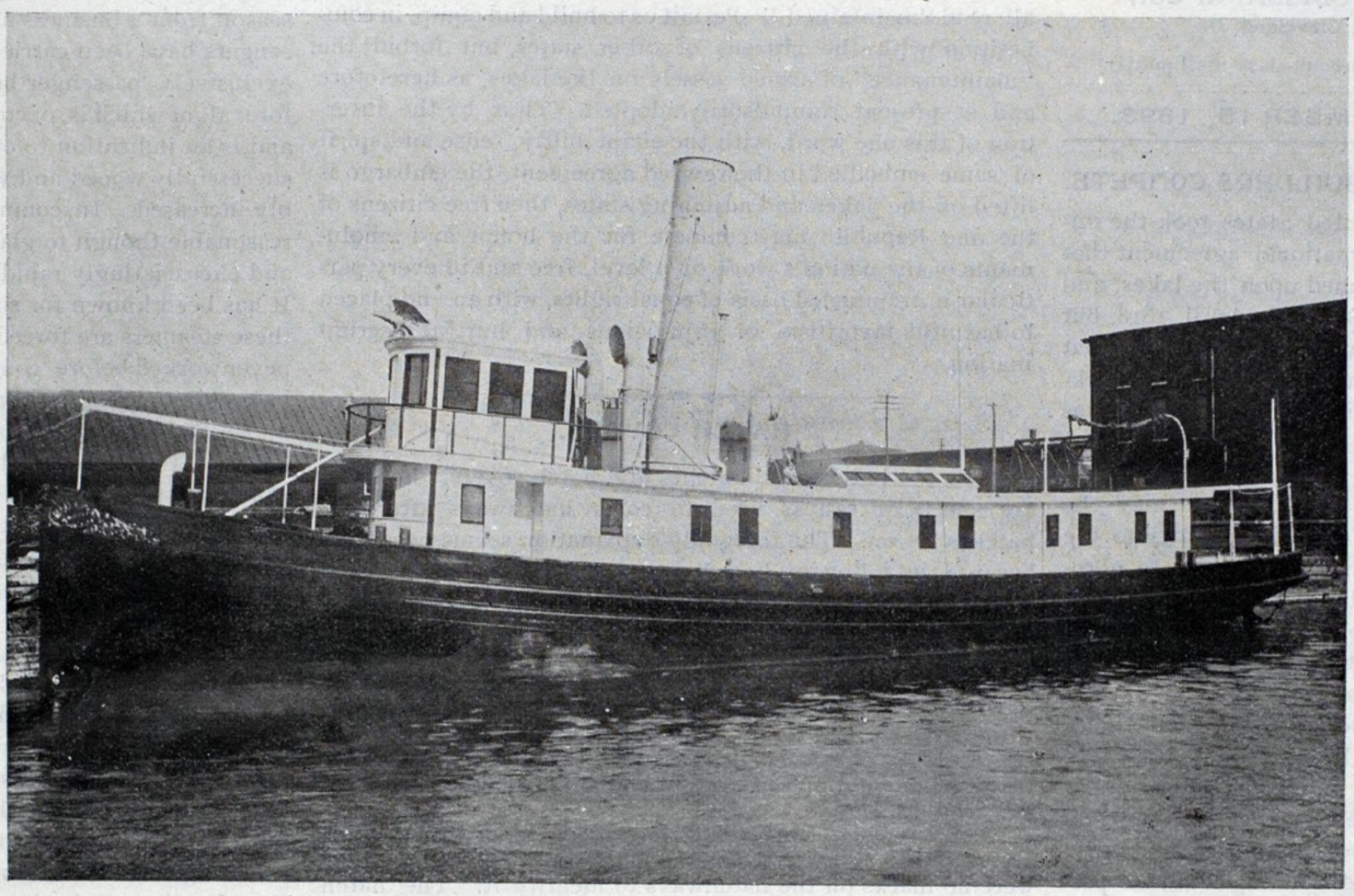
Judge Swan, of Detroit, has dismissed without costs, the libel of W. R. Sauter, owner of the barge O. J. Hale, against the steam barge Margaret Olwell, for non-performance of a contract of towage.

In October, 1893, the master of the Hale, then at Cleveland, negotiated with the master of the Olwell and vessel broker Jones, of Cleveland, for the towing by the Olwell of the Hale to Detour for one-third of her gross freight, and for $100 if she should tow the Hale only on the up trip. The libelant further alleged that it was then agreed that the Hale should stop loading coal and give way to the Olwell, so that the latter could go to another dock to take on her fuel while the Hale finished loading. After the barge had taken on her cargo she was towed by a tug out to the breakwater, and there waited several hours for the steam barge, which was delayed by bad weather. When the steamer came along the crew of the Hale got ready to pass her towline to the Olwell, but the latter refused to take it, and proceeded on her voyage. The Hale was greatly delayed on reaching Detour, as no vessel could be found after the Olwell's departure except for a sum largely in excess of the sum agreed upon with the Olwell's master, and probably greater than the freight which could be earned by the Hale upon that trip. The court held that there is no maritime lien for the non-performance of a purely executory contract for services to be performed by the vessel, unless she has entered upon the performance of such contract, and thereafter has committed a breach thereof.

A SKILLFUL CANADIAN WRECKING JOB.

The steamer Ocean, plying between Toronto and Montreal, while trying to get up the rapids at Point Iroquois with the assistance of a tug, parted the tow line just as the Ocean was near the head of the pitch, and she drifted broadside on a reef of rocks. The water on her starboard side was only 3½ feet, and on her port side 10 feet. The current at this point is very swift, probably 10 miles an hour. The Calvin Co., of Kingston, were wired for assistance, and they dispatched three tugs, viz., the Reginald, Chieftain and Johnston. The Johnston has on her deck two very powerful steam winches, and after discharging the cargo from the Ocean, the Johnston was securely fastened to a large tree on the bank of the river and her steel cables were run out to the Ocean and a heavy strain pulled on them by the steam winches. Then the two tugs with new 11-inch wrecking hawsers, 150 fathoms long each, were stationed above the pitch and began pulling on the boat. She came off 6 inches to 2 feet each jerk, the steel hawsers of the Johnston keeping up the strain and preventing the Ocean from being forced back on the shoal by the rapid current. In this way, inch by inch and foot by foot, the Ocean was released, apparently without receiving much, if any, damage. She was loaded with sugar and Portland cement, and, on arriving at the dock put on her cargo again and proceeded (this time through the canal) to her destination. Everyone familiar with wrecking admits that the job was a most difficult one, and that it was skillfully performed.

The Ocean stranded Sept. 1st, and was floated Sept. 5.



United States Revenue Service Boarding Officers' Boat Calumet.

Built by David Bell, Buffalo, and stationed at Chicago, from where she was taken to the coast this season for naval service. Her general dimensions are 94 feet 6¼ inches over all, 87 feet on water line, 20 feet 6 inches beam, and 10 feet 3 inches depth.

A VERY handsome and speedy steam craft has just been completed and put into service as a police patrol boat at Boston, Mass. She is 132 feet over all, 22 feet beam, and 9 feet draft. Her builders were given 125 days to build and equip complete for service and on that date she was given her trial trip. Much interest was manifested by mechanical experts on the trial trip regarding the splendid efficiency of the Almy water-tube boilers with which the new craft was fitted, and nothing but praise has been heard about the working of her engines and boilers. On her formal and final trial trip this week she will be turned over to the police department and at once be put into active use.

Concerning the Canadian law that Canadian logs must not be exported, but converted into lumber on that side, Hon. Don M. Dickinson says the interests of American lumbermen in Canada amount to $50,000,000; that they are imperiled by the construction of the law to cover pre-existing contracts; that the American lumbermen have never asked to have the law set aside, but that it be not made retroactive, and that contracts made before the law should not be affected by its provisions. He argued all this before the international commission, but as yet there has been no decision.

THE ENLARGED ERIE CANAL.

Next to receiving assurance of the completion of the improvements of the Erie canal, canal interests are just now most concerned in obtaining definite information regarding the size of the smallest lock that will be in operation when the improvements are finished. The anxiety on this latter point is due to the necessity for immediately building new boats, and it is not safe to begin building until the conditions under which the boats are to be operated are definitely decided upon. It is estimated that there are now less than 400 boats in actual commission on the Erie canal, while in 1863 the number approached something like 2,000. As soon as the boats get old the insurance companies refuse to insure them, and their days of usefulness on the canal end. They are then sent to New York to be sold for what they will bring.

Capt. George D. Gillson, who owns two fleets comprising eight boats, and who, in addition, is manager of the Schoellkopf Transportation Company, which operates between Buffalo and New York, seven fleets, comprising twenty-eight boats, said recently: "What the canal needs is new boats and we can never get new boats until we know the conditions under which they are to be operated. The first thing to know is the length of the new locks, or at any rate the length of the shortest lock, which will naturally regulate the size of the boats. We want locks to accomodate boats 125 feet long and 24 feet wide, and we want the canal right through to be able to accomodate boats drawing 8 feet of water. Such boats would each carry 20,000 bushels of wheat and the steamer 16,000 bushels, so that a steamer and its consorts would carry 76,000 bushels and would run down from Buffalo in eight days. It now takes nine days for the trip. A steamer fleet of four boats today only carries about 30,000 bushels, and it is no exaggeration to say that with the proposed new boats a good profit could be made at 2 cents per bushel from Buffalo to New York. Present boats could with 8 feet of water each carry 20,000 bushels more than they now do. The new boats of the size I have mentioned would cost $1,000 apiece more than the old boats, and their operation would cost no more. Three million dollars would enlarge the locks to 260 feet long and 25 feet wide.

"With larger locks, proper management and a fairly good depth, the Erie canal is far superior to a ship canal. The Welland canal is only about twenty-five miles in length, but even for that distance they have to use a system of steam tugs to help vessels along. The Erie canal is 352 miles long, and the small boats can be operated in the shallow channels much more cheaply than large ones, to say nothing of the original cost of the small ones. Large boats cannot use their power if they come within a foot of the bottom because of their ground suction."

As a protection against the action of torpedoes, says Chambers' Journal, warships were provided with wire netting shields, or crinolines, which can be extended by spars so as to form a wall around the vessel's sides. Upon which some ingenious inventor gave the traveling fish-shaped destroyer a cutting implement at its head which could penetrate the wire screen. A new form of crinoline has now been introduced which possesses a mesh of such construction that it cannot be pierced. But the invention probably comes too late; for if any lesson is to be learned from recent events, it is that the torpedo in naval warfare is of such secondary importance that it may be almost neglected altogether. We have learned lately that fighting ships armed with modern guns need not get to close quarters to work terrible destruction upon one another. A couple of miles separating the attacking vessel and that with which she is engaged is regarded as a near range; and no torpedo is effective at a quarter of that distance. Quick firing guns and accurate marksmanship are the far more important items to attend to, and American perfection in both these respects has really determined the issue in the present war.

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LET LAKE SHIP AND ENGINE BUILDERS COMPETE.

It is beyond question that the United States took the initiative in bringing about the international agreement that no war vessels should be built or armed upon the lakes, and President Monroe so informed the Senate in April, 1818, but it was never thought or even dreamed of at that time that the production of lake shipyards would become the backbone of the United States mercantile marine such as it has already arrived at.

While the mutual agreement to keep only a stipulated armament in force on the lakes may be cancelled, rendered null and void by either party to the agreement giving six months' notice of a desire to abrogate the so-called treaty, such a step has not as yet been fully decided upon, nor is there much likelihood that so radical a measure would meet with the earnest approval and support of a majority of our legislators.

In looking carefully at this question it will be seen that a slight difference in the wording of the agreement is all that is asked or called for at this time. Interested parties are at one in believing that the arrangement has worked beneficially to both countries for nearly three-quarters of a century, and on general principles the understanding could be prolonged indefinitely. Such might be the case were it not for special conditions which have developed during the past decade and alluded to in the foregoing when we stated that lake ship and engine building with the allied trades, industries and professions have become the backbone of the nation's merchant marine, and a means of keeping open a national highway of trans-continental traffic between our eastern and western seaboard, and more directly so, between the vast territory contained in our middle, western and northwestern states. This enormous commerce, or more particularly the industries engaged in furnishing the means of carrying on the same, now desire adequate recognition in the hope that the future will still further develop the magnificent progress made within the last quarter of a century. This much-needed recognition takes the form of lifting the embargo placed on lake shipbuilding by the Rush-Bagot agreement. This, and this only, is the "canker in the bud," the sole cause for the more than discontented feeling which exists regarding the terms of the treaty or agreement. There is every reason for the existence of a fast growing sentiment that the lake states are being discriminated against by the peremptory refusal of the government to award a contract to lake shipbuilders, and by shipbuilders, we include the various industries and interests entering into the construction and equipment of high-classed, modern war vessels and public or national tonnage. The feature in the Rush-Bagot treaty which denies the right of a large class of citizens to compete with their neighbors engaged in circles professional and industrial, touches in a marked manner the welfare of a large number engaged in the trades and occupations of western New York, Pennsylvania, Ohio, Michigan, Indiana, Illinois and Wisconsin, also Minnesota, and is felt as a commercial derogation in several adjoining states, where, if lake states could be admitted as competitors in bidding for the construction of national or naval tonnage, plants required to manufacture or produce the values entering into the construction and equipment of such vessels would be established, and where established at present might be enlarged and experience an era of industrial success with the concomitant emoluments now being granted to fellow citizens residing in more favored states or localities.

The clause in the Rush-Bagot agreement referring to building and arming vessels on the lakes is already so weakened that the attempt to keep it partially in force borders upon the ridiculous. The most important implements of war, military as well as naval, have, and are being constructed at lake ports. Immense steel shafts, rudder frames and other forgings, heavy ordnance, disappearing gun carriages, etc., are permitted to be manufactured at prominent lake ports, shipped east, or even west, by rail, but they must not be floated as part equipment of a hull on the lakes, and this is the ridiculous industrial and commercial aspect which the mutual international agreement crowds on us to perpetuate.

Instead of stating, as is provided in the agreement, "that no other vessels of war should be built or armed upon the lakes," let the agreement, if it is advisable to let it stand at all, read "maintained." Permit us to build and equip, in competition with the citizens of other states, but forbid the "maintenance" of armed vessels on the lakes, as heretofore and at present compulsorily adopted. Thus, by the insertion of this one word, with the adaptability, sense and spirit of same embodied in the revised agreement, the embargo is lifted off the lakes and adjoining states, then free citizens of the one Republic may compete for the honor and emoluments of the nation's work on a level, free and in every particular untrammeled basis of equal rights, with an end placed to harmful favoritism or injudicious and hurtful discrimination.

HATCH COVERS.

There are hatchways, hatches and hatch covers, the latter are sheets of canvas used to cover hatchways after the hatches are on. The foregoing explanation seems necessary because the following item has gone the rounds of the lake daily papers this week, and goodness only knows where else :

"A dispatch under date of Sept. 11, from Duluth says : A big steamer, in all probability an iron ore carrier, has foundered in Lake Superior, off the Apostle Islands, in the recent gale. The captain of the steamer Robert L. Fryer, which arrived here to-day, reported having passed through considerable wreckage on Saturday when 25 miles below Outer Island and on the straight course between Eagle Island and Double Island.

"The wreckage consisted of hatch covers, of which there are 21 within sight, and much other light woodwork. There were no marks on the hatchways to identify it. The hatch covers were painted an iron ore color, and each had four ring bolts in it. The presence of the hatch covers indicates that the boat they belonged to was undoubtedly lost.

"The fate of her crew can only be surmised, but it is feared that they went down with their boat. It will be several days before the identity of the lost craft can be determined. There is no boat overdue at Duluth, and the other Lake Superior ports have not yet been heard from. Only when some craft fails to arrive in port after a week or more of delay can the name of the foundered steamer be determined."

Iron ring bolts are not usually inserted in the corners of hatch covers, or tarpaulins, nor is this portion of a vessel's equipment likely to float when folded up. From later advices it appears that a steamer had been fitted with some new hatches and had thrown her old ones overboard to get clear of the lumber. From this trivial circumstance a verdant marine reporter founders a large iron ore steamer, then he goes on to lose all hands, and asks interested readers to wait in suspense for a week or more to ascertain the name of the foundered craft and her crew.

We have taken more than usual notice of this incident (although similar heartless and nonsensical reports are regularly perpetrated to agonize the relatives and friends of a crew and disturb the equanimity of owners and underwriters) as it is a reason, and a very cogent one, too, for not marking with ship's name, etc., deck fittings, as in the event of a few deck buckets, casks, cork buoys, or anything that will float, being accidentally washed overboard and afterwards sighted by a passing vessel, as in this instance, a report is likely to gain ground that something has happened to the vessel whose name the flotsam bore.

By the way, the owners of the steamer that passed the condemned hatches over the side are either mighty liberal in keeping up their vessels, or the people aboard, that is, the master and officers, are wofully willful in ignorant extravagance, for, according to the Duluth dispatch, twenty-one hatch covers were sighted, each containing four iron ring bolts, which would cost perhaps a quarter of a dollar each, at least it would be all of that to fasten them in he hatches. Now here is a throw away of a neat twenty-one dollars, or at the rate of a dollor a hatch, when a tap or two of a top maul would have knocked the hatch "covers" to pieces and furnished some handy dunnage for the vessel's use ; or, does the owners or their manager send aboard fifty dollars worth of dunnage wood once or twice a season? In the first case, the dispatch was a heartless, cruel hoax, and in the second place the hatches should never have been sighted, and thirdly as the parsons say, there must be good earnings in that line of steamers yet, or no such willful extravagance would have taken place; but there, perhaps the managing clerk is a novice at his business, and that would account for the whole thing, newspaper report as well, with the exception, though, that we draw the line at driving iron ring bolts in the corners of hatch covers and allowing tarpaulins so fitted to drift around among other light flotsam and woodwork.

SOME HARD FIRING TUBULOUS BOILERS.

The owners of the two Northern Line steamers North West and North Land have enjoyed a singularly prosperous season from a business and financial standpoint. More passengers have been carried this season on these twin-screw, exclusively passenger boats and sister ships than ever before, all of which is, of course, very gratifying to their owners, and is an indication to other interests of how a trade can be successfully wooed and won, probably maintained and possibly increased. In common fairness to humanity it is only reasonable though to glance at the cost of this schedule time and excruciatingly rapid service between Buffalo and Duluth. It has been known for some time past that the firemen on these steamers are forced to work as no men on the lakes never worked before, consequently, there has been a difficulty in keeping men more than a trip or two in the stoke-holds, or, we had almost said, and might just as well say "hell holes." In witness of that term we quote the following, which has just gone the rounds of the lake dailies : "John Otto, a fireman on the steamer North-Land, was buried at Mackinac Island on Wednesday last. The heat of the stoke-hole drove him insane, and he died on the trip between Detroit and Mackinac. Two other stokers were prostrated on the same trip, and one of them is likely to die." The foregoing quotation looks, from an ironical standpoint, to be a very prosperous and successful way of ferrying passengers across the lakes and gathering in their ducats. The statement that a few hours of rapid transit, run on schedule time, cost a life and perhaps two or three, certainly is of little account to those who were carried over the ground in a floating palace. To think in a Rudyard Kipling or a John Hay rhyming strain, it wouldn't matter much if :

"A gang of stokers drove down every hour,
For flesh and bones to sizzle through the fire ;
To make the greatest speed and keep up power
The furnaces demand a human pyre."

But quite recently, a parliamentary inquiry was held in England to inquire why firemen became insane, and generally tried to jump overboard. The notion was palpable though, they were having too much hell and too little of sea, air and sky, so they naturally and sanely enough, in their forced insanity, longed to wallow in what there was an abundant coolness of. After several years' service, it is almost time that some device was about being adopted on these two steamers that would keep down the temperature of their stoke-holds to a fair living heat. The Suez canal and East India trade is usually bad enough, and terribly hard on the "black squad" who, unseen and unheard of toil on in the interior of the metal hulls to keep the water churning astern of them, but there seems to be no sense or reason for sizzling up poor devils of stokers in the fire-rooms, (and also the engine-rooms apparently, for even the well paid engineers don't stay by them) of lake passenger steamers, and now that this years work is drawing to a close, as the boats are on their last trips, we hope to learn of a better order of things prevailing before the extreme heat of another season of navigation sets in, because it is positively inhuman to kill even harmless stoke-hold hands. One authority has recently blamed the Belleville boilers for a portion of this brutal treatment. The Babcock and Wilcox water tube boilers are also being used, yet, we have not heard so much cause of complaint regarding them until quite recently, when it is now known that they also

have been man murdering firemen, much in the same way as the two Northern Line boats. It might be interesting to learn why the marine news item regarding these firemen prostrated (and we hear that one has since died), has not found its way into the port news columns of the daily papers. Are the makers of the boilers strong enough financially, or otherwise, to suppress legitimate marine news items? Space is used for printing, and telegraph tolls charged for vaporing lies and harmful canards, while nothing more should be exacted for truthful reports.

CARRY GOOD LIGHTS.

The absolute necessity of high-speed steamers carrying the best make of lights, that is, mast-head and side-lights, is brought forward by a recent writer on the subject in the following terms: "Two steam vessels, each having a speed of 21 knots an hour, approach each other at night, end on, proceeding in opposite directions. These vessels complying fully with the law, have the mast-head lights visible at a distance of five miles and the side-lights visible at a distance of two miles. The night is dark, the atmosphere is clear, and the men on the lookout pick up the lights the instant they become visible. When the vessels are, say five miles apart, the lookouts will report the mast-head light of the approaching vessel to the officer on the bridge, who is able to see it immediately. He will, however, be unable to tell the other vessel's direction until her side-lights are visible. These he will see when the vessels are about two miles apart, and are approaching the point of collision at the rate of forty-two miles an hour. There are available two minutes and twenty-eight seconds for the ships' officers to see the lights, to make up their minds how they can best avert a collision, to give the order to port the helm, for the man at the wheel to obey the order, for the vessel to obey her helm, and for the ships to go clear. Does anyone say that the time is sufficient for all these agents to perform their several functions in ample time to avert a collision?" Of course the number of 21-knot ships is limited, but, if we take those steamers at half that rate of speed and double the time over which the light or lights would be visible, there is less than a five minute interval in which the officer of either vessel, or both, must act, and there is always a moment or two to be consumed in determining which is the giving-way vessel and how to keep clear. Again, the law stipulates that a mast-head light shall be visible five and the side-lights two miles under the most favorable conditions, or, on a dark night with a clear atmosphere. There can be no doubt but that the best manufacturers of ships' lights can, and do, place upon the market, lights that are not only equal to but in excess of the strict statutory requirements, and with the many close shaves and hairbreadth escapes from collision which takes place every twenty-four hours and in every part of the world where navigation and transportation by water is carried on, much of the safety to life and property may be ascribed to the efficiency and steady reliability of the most superior lamps manufactured, nor is it going beyond our province to say, in this connection, that in so far as the lake trade is concerned, a Buffalo firm of lamp manufacturers furnish a product equal to the best ever carried on shipboard.

ANOTHER little squabble is on the tapis this week about christening a battleship with wine or water. The ladies of that temperance union are indefatigable in their efforts to break down the old custom of christening ships with wine. They won't allow even a little tiny bottle, not even a simple dilution, they want only pure, clear, sparkling Adam's ale to be used. They must be at something, bless them, but they might let up on the naval christening crusade, and allow the ceremony to take place shipshape and Bristol fashion, according to Gunter. What's the use of throwing cold water on her just as she is starting out? Whether successful in her career or otherwise, she will be sure to get enough of that liquid, so there's all the more reason why she should be given a sweetly, pretty send off with a dash of the best the world produces to start with. A little good wine is beneficial at times, even the ladies of the W. C. T. U. will no doubt admit the insinuation, cautiously and guardedly perhaps, but the fact is incontrovertible. In any case, the ship should be given the benefit of the doubt, she always is, or should be, when there is any doubt in question, at least it is so relative to her position at times, capabilities, etc. There's lots of wine in the world, enough so that a stray bottle or two for naval christening purposes would not over consume the production, or rob any other avenues of its use. On the other hand, if the ladies would like to see it all spilled out, they would be more consistent in requiring, or even demanding that a hogshead of it be used at each launching and christening of a ship, or two or three of them for that matter, so as to otherwise lessen the consumption, providing the production could be kept at par.

THERE is, and has been, no end of growling among the volunteer soldier campers, the grub weren't right, sleeping quarters insufficient, officers too arbitrary, duty a bore, and the good Lord made the weather too hot besides sending skeeters along. It is gratifying to note that the blue jackets have no kick coming, didn't borrow any and conformed to the discipline and rules of their station without thinking of having wet nurses sent along to add to their daily routine of duty trials. Comparisons are usually odious, yet never more so, than when in connection with our flutter with Spain we compare the action and conduct of the Illinois and Michigan Naval Reserve crews with the volunteer militia corps of soldier boy Southern ninety day campers.

LAKE FREIGHTS.

There is an indication that ore rates may go up to 60 cents from the head of Lake Superior, and if the grain market improves only slightly during the week that rate will be established. At present the rates are steady at 55 cents, Duluth, an advance of 5 cents for the week, 50 cents Marquette, and 45 cents Escanaba, all to Lake Erie ports.

Grain rates are steady at 1⅛ cents on corn Chicago to Lake Erie with a fair demand for tonnage, although a strong effort was made during the week to back the rate down to 1 cent. Wheat from Duluth to Buffalo is quoted at 1¾ cents. The Erie canal grain rate is 1⅞ cents on oats, 2¼ cents on corn and 2⅝ cents on wheat.

Coal rates declined 5 cents on Monday, Buffalo to Milwaukee-Chicago and are now quoted at 25 cents with 20 cents to Lake Superior. Ohio ports to Lake Michigan steady at 25 cents. Where good dispatch is offered the usual increased rates to minor ports, and 30 cents was paid on a cargo that would take some time to discharge at Milwaukee.

A BOOM PREDICTED IN SHIPBUILDING.

Colonel F. G. Hecker, of Detroit, capitalist, financier and generally accredited as being one of the shrewdest business men in the country, is enthusiastic regarding the shipbuilding outlook in the United States.

It will be remembered that Colonel Hecker was singled out by the War Depart nent to purchase, charter or otherwise secure transports and other auxiliary tonnage required on the breaking out of the trouble with Spain. Secretary of War Alger had met with untold annoyances relative to the foregoing branch of his department until the services of Col. Hecker were enlisted and then he, with Mr. Frank Kirby, soon had matters straightened out so that transports, supply ships, dispatch boats, etc., etc., were placed at the orders of the War Department as distinct from the naval branch of national service.

Col. Hecker believes that one of the most important, lasting and far reaching effects of the war with Spain will be the immense improvement in shipping interests of this country.

"There is even now," he said, "an activity beginning among eastern shipyards which will give employment, directly and indirectly to thousands, and which will result in the steady growth of our merchant marine. This movement will not be spasmodic. Our new possessions will have to be communicated with, there is no method of maintaining the growing commerce than by boat, and capital will be quick to flow into such profitable channels.

"The Newport News Ship Building Company is about to put $1,000,000 into its plant, and will go more extensively than ever into the production of mammoth ships. This is only one of the big companies of the east, and they will all have to keep abreast of the times."

Speaking of the work of Frank E. Kirby, of the Detroit Dry Dock Company, who has been consulting engineer for the War Department, and assisted Col. Hecker in his immense work of securing transports, he said:

"Mr. Kirby has done most excellent and efficient work. His experience is of great value. He has worked cheerfully and earnestly, and has brought to the government a skill and energy that very few could give. He is bound to receive full recognition for his services."

WESTERN TRANSPORTATION AND COMMERCE.

It has taken but a few years development for Superior, Wis., to become a very important point in the transportation and commerce of the illimitable west.

The port of Superior, at the head of lake navigation and nearly opposite to the flourishing port of Duluth, Minn., (Proctor Knott's Zenith City, and hub of the western hemisphere), has this season handled a considerable quantity of merchandise from the far west, more going through that port so far this summer than has ever been handled in the same time during any former season and the marked progress has a certainty of continuance year after year. Of Montana wool 1,250 tons were sent eastward in July alone, and 2,500 tons in August. Last year's shipments were 3,200 tons. Washington salmon in cases were shipped heavily last year, 188,000 cases, or about 3,500 tons, going through that port. Nearly the same amount has already been shipped this year, with three months yet to hear from. Montana also has sent 24,000 tons of copper through Superior so far. Last year 34,000 tons was the entire shipment. Many cedar shingles from Washington are being handled right along, 3,000 tons having been shipped east by lake this summer.

In dealing with the port of Superior alone, it may truthfully be stated that history fails to show a more stable and rapid advancement at any port in the world than has been witnessed within the past decade at the Wisconsin port of Superior. Furthermore, it is candidly acknowledged that the commercial growth is yet in its infancy, while its future probabilities are of too large a volume and too extensive in importance for the average citizen now watching its steady and industrial accretions to comprehend, even with the light of modern commercial progression in transportation innovations and the industrial activity which is so characteristic of this great western country.

It has been said in the past that "all roads lead to Rome." Superior may flatter herself that the increasing commerce of the northwest and west, even to the Pacific slope, is, or soon will be, tributary to her facilities, for and towards metropolitan importance and commercial advancement.

SURVEYING FOR A CANAL TO THE COAST—OBTAINING LAKE LEVELS.

George Y. Wisner, of Detroit, a member of the Deep Waterways Commission is now on the St Lawrence, to inspect the work of survey being done at that point and on Lake Champlain. The St. Lawrence-Champlain detail of engineers has completed the work up to a point at which an inspection of the remaining territory seems essential. Mr. Wisner says that if the weather keeps fair he expects this survey to be completed by December 1st. In fact, Mr. Wisner hopes to have all the field work completed by the beginning of winter, with the exceprion of a few small locations, which can be finished in the early spring.

With the bulk of the reports on the field work in their hands, the commissioners can estimate the important part of the whole undertaking, the solving of the problem of practicability along the various lines which have been investigated.

There are, at present, eight parties in the field. One is that which is working on the proposed route between the St. Lawrence and Lake Champlain. Two parties are working towards each other on the line from Oswego to Troy and hope to effect a junction about the first of November. This work is on the proposed route between Lake Ontario and the Hudson river. A fourth party is at work surveying the St. Lawrence river, from Ogdensburg to Lake St. Francis, surveying for a possible canal around the rapids between these points. The Hudson in the neighborhood of Troy is shallow and another party is working on the problem of the extent of the deepening, which will have to be done, in case the Hudson becomes a factor in the route to the sea. The survey will be made between Troy and the town of Hudson.

At Utica, a party is looking into the problem of a water supply for the summit level, which is at Rome, N. Y. This part of the work cannot be completed for a long time yet, as the problem is a difficult one. It is probable that the solution will be a system of storage levels on the summit, the water being obtained from the Black river, which is high in the spring of the year. The levels are being taken between Lake Ontario and Lake St. Francis to determine the fall to be overcome between these places.

The work at the foot of Lake Erie with reference to the erection of a dam for the regulation of the water flow, and at the mouth of Niagara as well as at Olcott on Lake Ontario, for harbors, was finished, a day or two ago, and this party will complete their work at Grand Island, where some deepening of the channel will be required. Next week a start will be made taking the levels of Lakes Erie and Huron, connecting with gauges along the Detroit and St. Clair rivers established by Col. Lydecker, for the effect of the regulation of Lake Erie on the depth and flow of the rivers.

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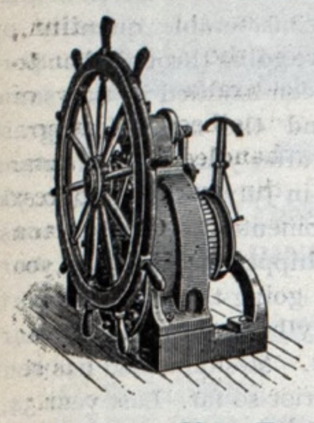

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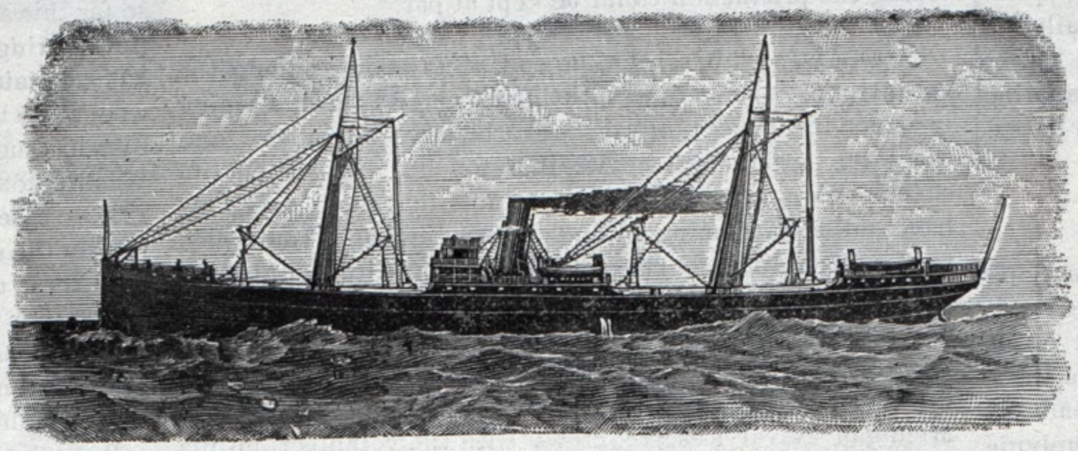

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MASTERS AND ENGINEERS HOLDING LICENSES ON THE LAKES FOR TWENTY YEARS AND UPWARDS.

(Continued.)

DULUTH, MINN., MASTERS AND PILOTS.)

William Thorn, 42 years; Maynard H. Murch, 36 years; Wilson B. McGregor, Andrew Rattray, 31 years; Frank A. Fick, John S. McNeil, 30 years; Martin Niland, 29 years; Alonzo A. Cox, John W. Jordan, James H. McCormick, Alex. McDougall, Alexander R. Sinclair, 28 years; Byron B. Inman, Henry Richardson, 27 years; Charles H. Bassett, 26 years; Joseph Cottrell, Elie Jacques, Albert C. Majo, Dallas Reyder, 25 years; Andrew M. Graves, Cyrus S. Millard, Martyn Wheeler, 24 years; Roselle P. Coburn, Joseph Corcoran, Alfred C. Smith, 23 years; John C. Rafferty, Frank D. Root, W. W. Stewart, 22 years; William Hutchins, John M. Twichell, 21 years. Frank R. Brower, Geo. L. Cottrell, Ira Coburn, Joseph G. Sower, James Quinlan, 20 years.

DULUTH, MINN., CHIEF ENGINEERS.

James Kelly, 36 years; Edwin C. Prince, William W. Tyler, 31 years; Aaron P. Hagedon, 29 years; Henry Chalk, 28 years; Richard Lawson, John Stevens, Joshua B. Wood, 27 years; George A. Miller, Hill Reid, 26 years; Alfred Beauchemin, Gilbert M. Newton, John Wadleigh, 25 years; Alfred Baker, Edward Dempsey, John Huck, 24 years; George Belloir, Albert J. Smith, 23 years; Seaman H. Armstrong, John H. Jeffrey, Edward H. Montgomery, 22 years; Daniel A. Cronk, Ashley A. Hibbard, Gustav Nelson, Zephraim Perrault, Simon Smith, Daniel J. Stringer, Patrick H. Wheelan, 21 years: Wilbert E. Adams, Peter Dube, Herbert Dean, John E. Jordan, Alonzo C. Robinson, 20 years.

MARQUETTE, MICH., MASTERS AND PILOTS.

Thomas Stafford, 31 years; Edward Mooney, Joseph Taylor, 30 years; Alfred Trempe, 29 years; Alfred Taylor, 28 years; Chas. Christy, Axel V. Lindquist, Joseph Picard, 27 years; Patrick H. McGuire, David Tallion, G. A. Chandler, 26 years; Geo. B. Bartley, Wayne Hursley, Hugh McKenzie, James R. Rood, 25 years; William D. Ackrill, James Bell, Joseph Roleau, Leon Bernard, 24 years; Martin Golden, John Ermatinger, David Picard, 23 years; Jay Hursley, John B. Monder, 22 years; Charles M. Everett, William Freschette, Ernest Meyers, Joseph Paul, Syndenham Scott, 21 years.

MARQUETTE, MICH., CHIEF ENGINEERS.

Thos. B. Kelley, 30 years; Alexander Crawford (ocean license also), James McMaster, 26 years; Cyrile Carpenter, Michael Frechette, 25 years; Jacob Grassell, Isaac Hull, 24 years; Alfred Bruce, Charles H. Hale, John Helmert, 22 years; James Kelley, 21 years; Henry Barnard, Joseph Greenleaf, Almon H. Stoner, John Vanderstone, 20 years.

GRAND HAVEN, MICH., MASTERS AND PILOTS.

Richard Connell, 33 years; Murdock McRae, 31 years; Lewis R. Boynton, James H. Goldring, 28 years; A. E. Bouchard, Pheatt J. Millen, 27 years; Chas. Gnewuch, Reuben H. Mosher, 26 years; Arthur N. Napier, 25 years; Oscar E. Wilbur, 24 years; William Klingbeil, Chas. A. Lyman, Robert O'Neill, Charles Waitman, 23 years; John McCarthy, Henry Risto, William Turnbull, John Witherell, 22 years; Thomas McCambridge, Charles D. Morrison, Jonathan Penfold, 21 years; John Laffery, Daniel McFarlane, Alfred Partridge, R. T. Rogers, 20 years.

GRAND HAVEN, MICH,, CHIEF ENGINEERS.

Charles L. Barron, 40 years; Martin J. Williams, 33 years; Robert Bruce, 30 years; E. A. Bates, Alexander Currie, 28 years; Lewis Guard, 27 years; Peter Welch, 25 years; John Golden, Andrew E. Peterson, Richard Walsh, 24 years; Henry Bradshaw, S. E. Burnham, Wayne Coates, Daniel Hall, F. P. Snyder, John Stark, 23 years; Frederick Lanko, John Miller, Henry O'Connell, 22 years; Martin J. Fleming, Deark Hall, J. A. Hitchcock, Edwin R. Pike, George Perkins, George W. Riggs, 21 years; William F. Brown, Frank Costello, Clark Dereno, Milan C. Flanders, John T. Farnham, James O'Connell, Adolphus Siminow, William Thornton, 20 years.

EASTERN FREIGHTS.

Messrs. Funch, Edye & Co. in their eastern freight report to the RECORD state that further strength has developed in our market, and many enquiries now pending point to a still further improvement. Large berth-term steamers are in request, and 3s. to picked ports is readily obtainable for this month's loading, with a premium of 1½d. to 3d. for the privilege of general cargo. Orders for shipment in October permit of slightly higher rates than those obtainable for September, but business for next month's shipment is neglected, as owners are pursuing a waiting policy. Cotton ports are only slowly responding to advanced figures demanded, and the volume of business therefore is naturally quite limited. Timber and deals show better activity, and altogether the situation, in our opinion, is a thoroughly healthy one.

The business in sailing vessels during the past week has again been very light, and the market continues favoring shippers, particularly as far as the larger class of tonnage is concerned. Case oil rates to the Far East show a further decline, and only one charter is reported, at the low rate of 12 cents to Calcutta, while the demand for barrel vessels to Europe has almost entirely ceased, and only two vessels were fixed for cases to the Mediterranean. The demand for timber tonnage to South America is likewise light, and shippers seem to hold aloof in expectation of lower rates. Naval stores freights are without important changes, and in other lines there is nothing of interest to report.

VISIBLE SUPPLY OF GRAIN

As compiled for The Marine Record, by George F. Stone, Secretary Chicago Board of Trade.

CITIES WHERE STORED.	WHEAT. Bushels.	CORN. Bushels.	OATS. Bushels.	RYE. Bushels.	BARLEY Bushels.
Buffalo	192,000	1,096,000	576,000	34,000	74,000
Chicago	504,000	7,224,000	671,000	107,000	59,000
Detroit	60,000	95,000	19,000	23,000	3,000
Duluth and Superior	1,537,000	1,234,000	60,000	31,000	78,000
Milwaukee	76,000	.....	1,000	2,000	18,000
Montreal	28,000	13,000	275,000	11,000	6,000
Oswego	.....	.....	.....	.....	.....
Toledo	391,000	260,000	238,000	22,000	.....
Toronto	12,000	.....	7,000	.....	3,000
On Canal	25,000	1,066,000	.....	.....	.....
Grand Total	8,406,000	17,360,000	4,277,000	599,000	438,000
Corresponding Date, 1897	15,766,000	33,604,000	9,701,000	2,349,000	1,330,000
Increase	1,259,000	506,000	38,000	.....	188,000
Decrease	.....	.....	.....	60,000	.....

While the stock of grain at lake ports only is here given, the total shows the figures for the entire country except the Pacific Slope.

Among the articles in Cassier's Magazine for September are: "Speed as an Element of Warship Design;" its vital importance in modern naval warfare, with four illustrations, by passed ass't engr. Walter McFarland, U. S. N. "Naval Repair Ships;" the floating repair ship Vulcan, of the U. S. Navy, with four illustrations, by Chief Engineer A. B. Willits, U. S. N. "Protection of British Commerce in War Time;" a discussion of ways and means, by Rear-Admiral Lord Charles Beresford.

SUN'S AMPLITUDES.

The following approximate amplitudes of the Sun's rising will be given each week in this column during the season of navigation. A second bearing may be taken by compass at sunset by reversing the east bearings given for the nearest latitude, as the change in declination for a few hours makes but a slight difference in the true bearing of the Sun's setting:

LAKE ERIE AND S. END LAKE MICHIGAN, LAT. 42° N.

Sunrise.	Bearing.	Bearing.
September 17	E. 3° N.	E. ¼ N.
September 20	E. 2° N.	E. ¼ N.
September 23	East	East

LAKE ONTARIO, S. END HURON AND CENTRAL PORTION LAKE MICHIGAN, LAT. 44° N.

Sunrise.	Bearing.	Bearing.
September 17	E. 3° N.	E. ¼ N.
September 20	E. 2° N.	E. ¼ N.
September 23	East	East

N. END LAKES HURON AND MICHIGAN, LAT. 46° N.

Sunrise.	Bearing.	Bearing.
September 17	E. 3° N.	E. ¼ N.
September 20	E. 2° N.	E. ¼ N.
September 23	East	East

LAKE SUPERIOR, LAT. 48° N.

Sunrise.	Bearing.	Bearing.
September 17	E. 3° N.	E. ¼ N.
September 20	E. 3° N.	E. ¼ N.
September 23	East	East

With a compass correct magnetic, the difference between the observed and true bearing or amplitude will be the variation for the locality. Should there be any deviation on the course the vessel is heading at the time of taking the bearing, the difference between the observed and the true amplitude after the variation is applied, will be the amount of deviation on that course. If the correct magnetic bearing is to the right of the compass bearing, the deviation is easterly, if to the left, the deviation is westerly.

THE SOLUTION OF PERFECT PROPULSION BY THE SCREW PROPELLER WHEEL.

We have received the following communication from a Buffalo vessel owner with the request that we use as we please:

"It has been said that there is nothing new under the sun, but Capt. Samuel Golden, of Buffalo, has disproved the truth of the old proverb in producing something entirely new in the line of propeller wheels. He is a veteran in navigation, and for many years has given much study to the subject of ship propulsion from a scientific standpoint. He became convinced that wheels made from the same pattern were not adapted to all styles and builds of boats. They would propel the craft, but not with that degree of proficiency as a wheel designed to meet the shape and construction of the boat to which it was attached. Following out this theory he has for some time been experimenting, and has evolved, built on scientific principles, a perfect wheel. The virtues claimed for this new invention are greater speed on much less fuel than those now in use; doing away with vibration and racing, reducing speed quickly when desired, and backing equally as well as driving. He recently constructed a wheel for the police boat Gov. Morton, of Buffalo, which after being put to severe trials proved satisfactory to all concerned and sustained the qualifications claimed for it. The Buffalo newspapers have given words of praise for the new invention which is destined to work a revolution in the manufacture of propeller wheels. In appearance the wheel does not differ from an ordinary one, but it is built on mathematical lines and scientific principles." Capt. Golden is now in correspondence with the United States government for putting wheels on some of the best vessels owned by Uncle Sam.

PRESIDENT HILL, of the Great Northern railroad, says in an interview: "The wheat production of the west has perhaps reached half its maximum amount. Only the best of the land back from the railroads is now in use, but a greater demand will bring the rest out. I should not be surprised if the Niagara Falls became the great milling center of the country. The line of least resistance will be to take the wheat of the Red River Valley to Duluth and through the lakes to the Niagara water power, where wheat can be made into flour cheaply and near the mouths of consumers. If our government would make it possible for us to furnish people in Asia with a larger part of the food they eat, we should be able to raise the price of the wheat that goes to Europe. The solution of the problem is largely in the restoration of our merchant marine. I believe the best plan would be a small export bounty, say $2 a ton on all goods exported in American ships for a period of 10 years. Suppose we sent 1,500,000 tons a year, which would be a ship carrying 5,000 tons every business day, it would cost the government only $3,000,000 annually. Think of the value of the cargoes and the amount that would come back to us from such an export trade."

THE iron and steel combinations, which have been in process of organization in Chicago for some time, is now authoritatively said to include the following five companies: Minnesota Iron Co., with its Duluth & Iron Range railway and Minnesota Steamship Co.; Illinois Steel Co., with its Chicago, Lake Shore & Eastern railway; Southwestern Connellsville Coke Co.; Elgin, Joliet & Eastern railway; Lorain Steel Co., of Lorain, O., and the Johnstown Steel Co., of Johnstown, Pa., lately merged with the Lorain Co. The promoters of the combination still hope to later include the Cambria Iron Co., Bethlehem Iron Co., Tennessee Iron & Coal Co., Pennsylvania Steel Co., Colorado Fuel & Iron Co., and the Carnegie Steel Co. The capital of the new combination will probably be $200,000,000; and the five companies named as in the deal have a capitalization of more than $75,000,000; those named as still outside are capitalized at over $90,000,000. The Carnegie Co., however, officially denies having any connection whatever with the trust. The new company would be called the Federal Steel Co., and the syndicate to furnish working capital will be managed by J. P. Morgan & Co., says Judge E. H. Garry for the committee of ten on organization.

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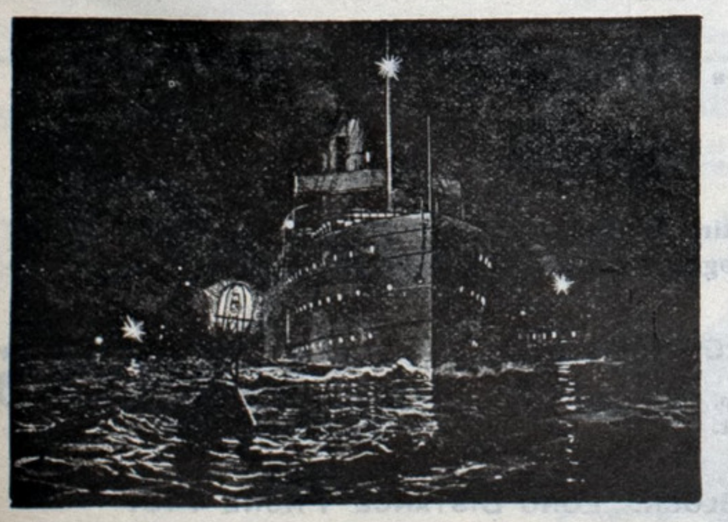

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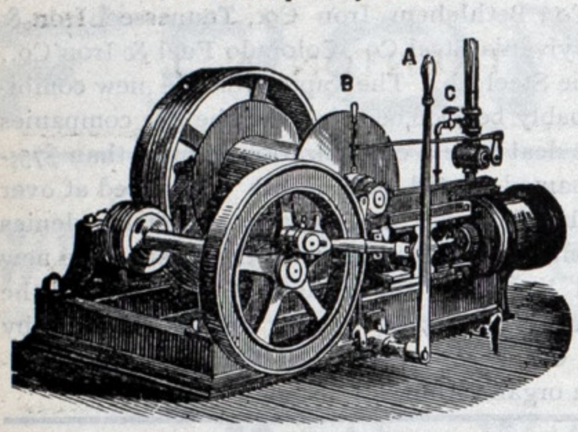

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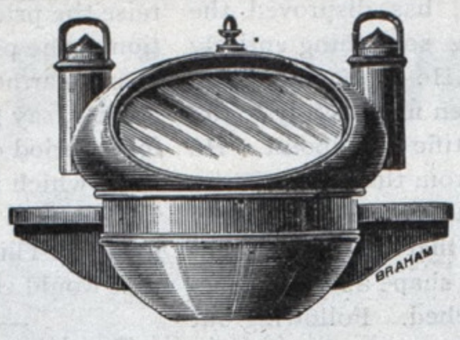

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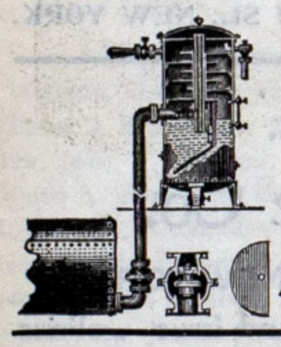

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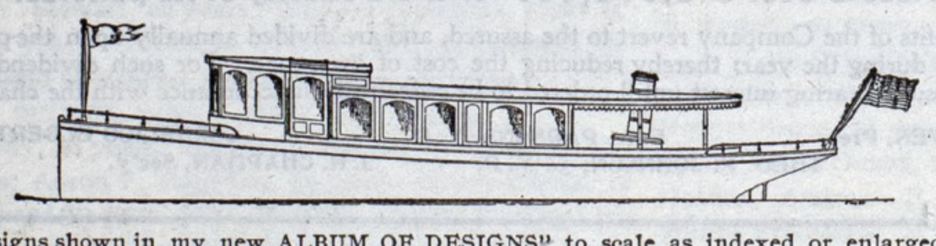

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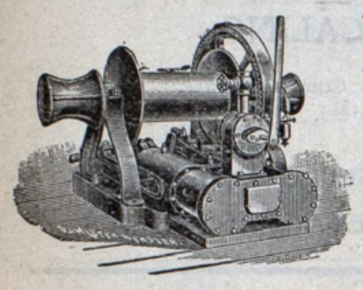

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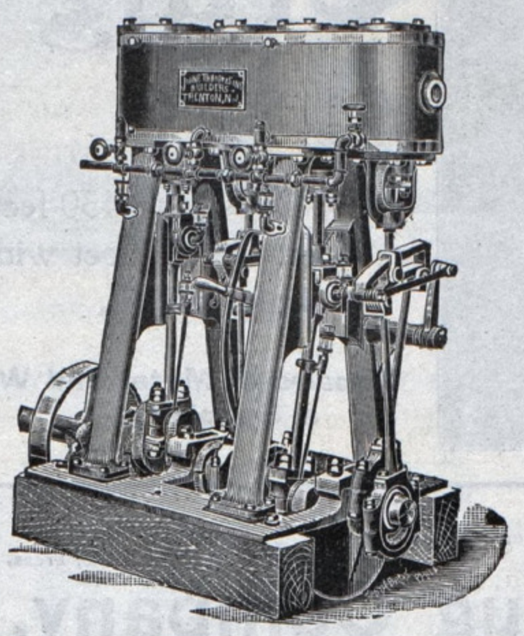

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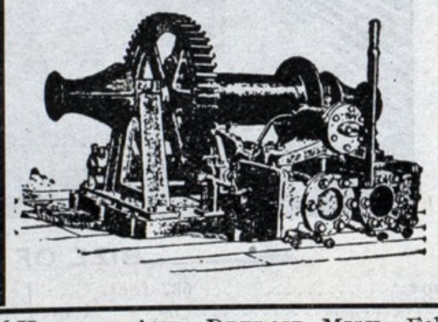

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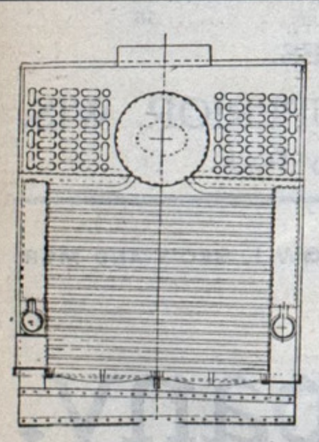

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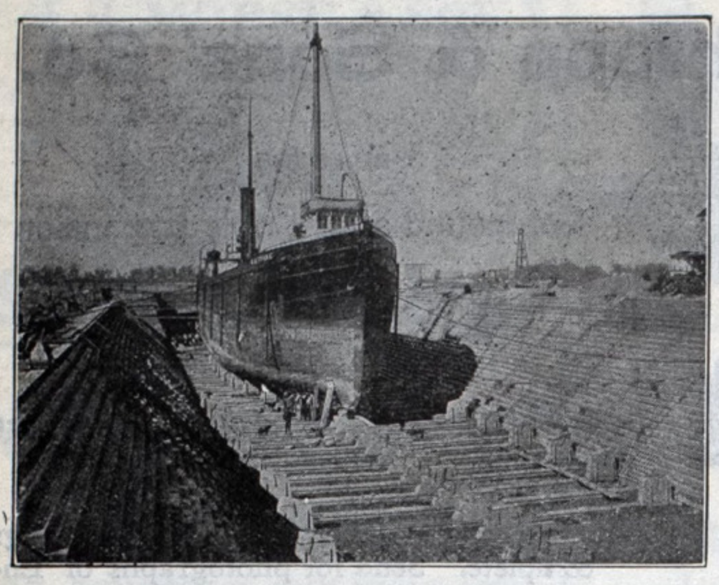

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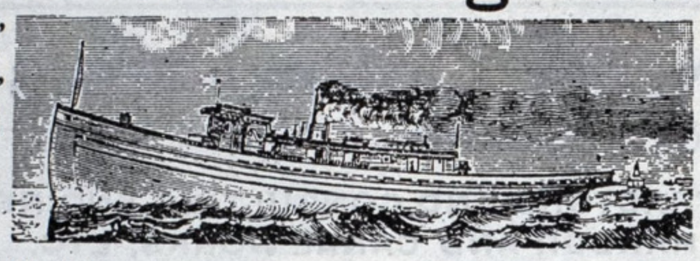
The Cleveland Tug Company,

First-class Tugs, Steam Pumps, Divers, Hawsers, Lifting Screws, Etc., furnished Promptly on Orders by Telegraph or otherwise.



Steamers when outside wanting our Tugs, blow one long whistle and as many short ones as they want tugs.

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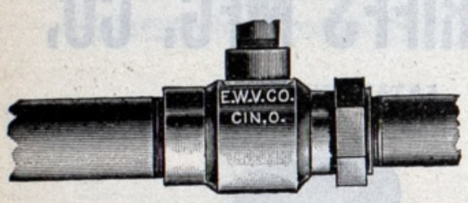

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The BEST Steam Jet Pump in the WORLD,

It pumps the most water using the least steam.

Its cost is a little more than the common syphon, but will use only one-third the quantity of steam; and it takes coal (? of $) to make steam.

The ONLY reliable Jet Pump for fires on steam vessels.

A No. 7 Pump costing $25.00 will force water through 50 feet of hose and throw a ¾ inch solid stream of water 75 feet from end of nozzle without fail as long as there is water at end of suction pipe. It will not *freeze*. Has no *valves*.

Every pump guaranteed. Ask your ship chandler for them, or write to us for illustrated catalogue.

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A. Gilmore's Sons,

Dry-Docking, Ship Building and Repairing.

EAST SIDE, NEAR IRONVILLE, - - - TOLEDO, O.

Dimensions of Dock, 236 feet long, 55 feet wide at top and 37 feet wide at gate. Nine feet water over sill. RATES OF DOCKING, Ten Cents per registered gross ton for vessels over 200 tons. Jig Mill and Planer in connection with Dock.

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Paint Your Vessel with **Superior Graphite Paint**

NO BLISTERING, CRACKING OR SCALING.

Made especially for Stacks, Decks, Sides, Hulls, and Water Compartments.
Strictly Anti-Rust, and most durable and economical.

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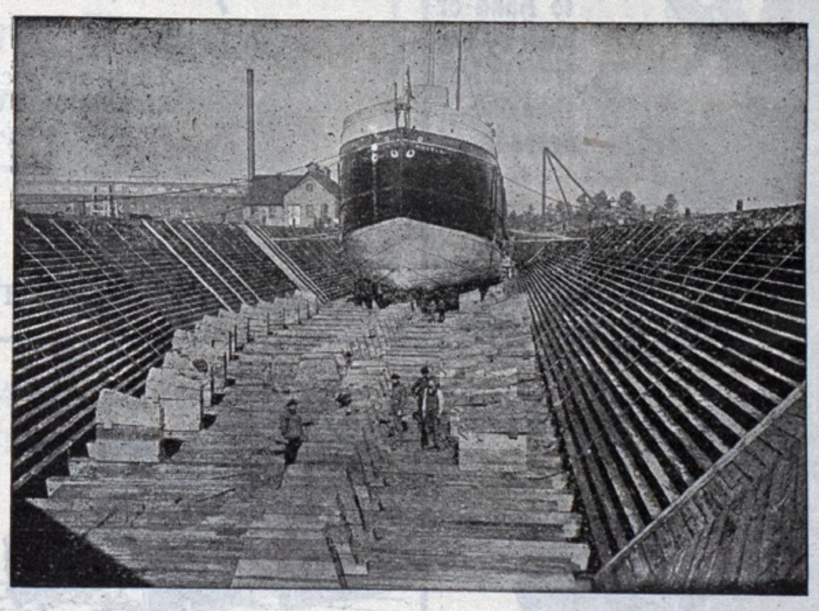
Plates and Material always on hand to repair all kinds of Metal Ships in Shortest Time.



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Length, Extreme	587 feet.	Entrance, Top	55 feet 9 in.
Breadth, Top	90 " 4 in.	Entrance, Bottom	50 "
Breadth, Bottom	52 "	Depth over Sills	18 "

LARGEST DRY-DOCK ON THE LAKES.

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A Number of Propeller Wheels in Stock at Dry-Dock.

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LENGTH OF DOCKS:	WIDTH OF GATES:	DEPTH OVER SILLS:
No. 1, 462 Feet.	50 Feet.	18 Feet.
No. 2, 350 "	55 "	18 "
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